Ana Gene Biotech

Genomics Catalog





2017

Ana Gene Biotech
Genomics Specialist

Innovative Company

Certificates

ISO 9001 ELBACERT	Quality Management System
ISO 14001 ELBACERT	Environmental Management System
ISO 10002 ELBACERT	Quality Management System
OHSAS 18001 ELBACERT	Occupational Health and Safety Management

DRS CE IVD

Certificate No. CE/IR/DRS16/5099

Declaration of Conformity

This is to certify that the conformity European of

Ana Gene Biotech Co.

Pasteur Institute of Iran, Research and Production Complex,
25th km of Tehran-Karaj Highway, Iran

Product & Models:

TransFind Kit (Translocation Detection Kit)
MutID Kit (Mutation Detection Kit)
QuantiFind Kit (Abnormality / Organism Quantitative Detection Kit)
ViruFind Kit (Virus Detection Kit)
BactoFind Kit (Bacterial Detection Kit)

REMARK:

THIS DOCUMENT HAS BEEN ISSUED UPON A REVIEW OF THE DATASHEETS AND OF THE TECHNICAL CONSTRUCTION FILE. THE PRODUCT IS CONSIDERED TO MEET THE REQUIRMENTS. OF THE BELOW STANDARDS, THEREFORE TO FULFIT THE REQUIRMENTS OF THE BELOW LISTED STANDARDS:

EC/98/79	In Vitro Diagnostic Medical Devices

This document is only valid for the products here listed and in conjunction with the test data detailed above. Nevertheless the manufacture is not exempted to perform all the necessary activities before exporting.
This certificate was first issued on 25.08.2016 and remains valid as long as the conditions laid down in the harmonized technical specification in reference or the manufacturing conditions in the factory or the FPC itself are not modified significantly. The certificate is supported through annual surveillance audits and is reissued after each surveillance audit. This certificate should be reissued not later than 24.08.2017.

Initial Registration Date : 25-08-2016
Issue Date : 25-08-2016
*Expiry Date : 24-08-2017
Re- Certification Date : 24-08-2019

CE

D.R. Sharma
Managing Director

DRS MANAGEMENT SYSTEM PVT. LTD.

(AN ISO CERTIFICATION BODY)

E-mail : drsmspl@gmail.com, info@drscertification.com
For current validity of the Certificate, visit on www.drscertification.com/clientdetail.aspx
In the search box, enter first 4 letters of the organization name plus last 6 letters of the certificate no.

ELBACERT

CERTIFICATE

Certification body ELBACERT, joint-stock company
certifies by this, that company

Ana Gene Biotech Co.
Pasteur Institute of Iran, Research and Production Complex,
25th km of Tehran-Karaj Highway, Iran

has implemented and maintained
a Quality Management System
in accordance with requirements of standard

EN ISO 9001:2008

for the scope :

Development of genomics and pharmacogenomics kits
in the field of molecular medicine.

The certificate remains valid subject to satisfactory surveillance audits conducted by ELBACERT.

ELBACERT, joint stock company, Československej armády 264/5A, 967 01 Kremnica, Slovakia
The company is incorporated in the Companies Register of the District Court Banská Bystrica, Section: Sa, File No. 791/S, www.elbacert.sk

Certificate Issue Date: (16/09/2016)
Expiry Date: (16/09/2017)
Re-certification date: (15/09/2018)
Certification No: 2016/89/R

ELBACERT

Mr. Mirek Krajčov
Certification body director

Ana Gene Biotech an Innovative Company

Shipping and Transportation Solution by Lyophilized qPCR Mix

DATA Management/Analysis Solution by ANAlysis 1.1

SNP Detection Solution by MutID Technology

Content

Pharmacogenomics Panel

Infectious Panel

Molecular Biology Products

About Us

Ana Gene Biotech is a corporation specializing in the innovation, production and marketing of genomics and Pharmacogenomics products for life science research and diagnostic markets.

Ana Gene provides specific Infectious and Leukemia molecular qualitative and quantitative kits including ALL, AML, APL, CML, Influenza, HBV, HCV, CMV, etc.

Ana Gene Biotech supplies precise mutation diagnostic kits that enable the most sensitive, reliable, and accurate detection of thrombophilia and pharmacogenomics biomarkers such as FVL, FII, FXIII, PAI-1, MTHFR, FVHR2, BRAF, NRAS and KRAS directly from DNA sample.

Our future plans for the growth and expansion of our businesses are listed below:

- Cancer Prediction and Prognosis by microRNA expression analysis (2017-2018)
- Molecular HLA Typing kit based on ARMS TaqMan Probe technology (MutID technology) including HLA loci: A, B, C, DRB1, DRB345, DQA1, DQB1, DPA1, DPB1 (2017-2019)

Ana Gene Biotech Innovations

- MutID Technology based on ARMS TaqMan Probe technology for SNP detection, microRNA expression study, …
- Lyophilized qPCR Mix
- Lyophilized One step qPCR mix (Inexpensive cDNA synthesis and amplification)
- ANAlysis 1.1 (Data Analyzer, Data Validation, Report of results as PDF, …)
- Software based management, QA, BPR, production, QC …
- RNA control for RNA viral diagnostics kits
- RNA Stabilizer (RNA Preservation and Stabilization)

CEO: Dr. Ali Eslamifar

MD - Pathology Specialty, Head of Clinical Research Dept, Pasteur Institute of Iran

Board Director & Technical Manager: Dr. Reza Shirkoohi

MD – PhD (Genetic Medicine), Associate Professor, Cancer Research Center. Cancer Institute. Tehran Universitv of Medical Sciences

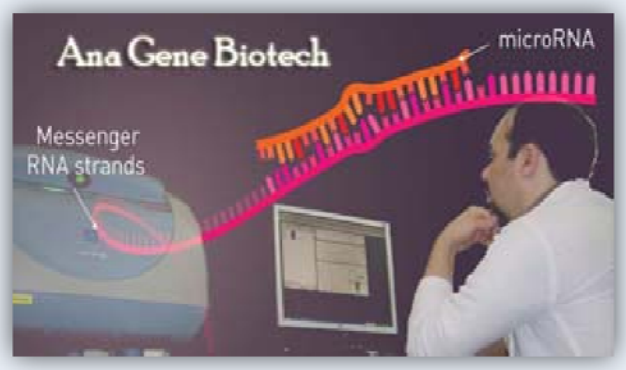
Project Manager: Mansour Abachi

Production Manager: Monir Salati

• Cancer Prediction and Prognosis

Gene Expression Analysis of Top Significant Circulating microRNA

1- Primers and Probes Designing, Optimization and Validation (2017)
2- Calibrator Preparation (2017)
3- Normalization on 35 healthy donor sample (2017-2018)
4- Validation (2017-2018)
   a. Validation on 85 serum samples of healthy donor
   b. Validation on 120 serum samples of Breast, Lung, Prostate and Colorectal cancer
5- Clinical Trials (2018)

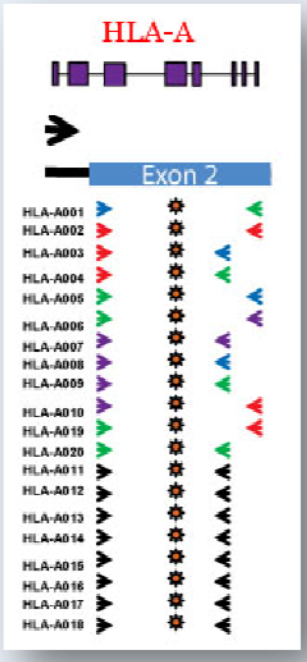


• Molecular HLA Typing Kit

ARMS TaqMan Probe technology (MutID technology)

HLA loci: A, B, C, DRB1, DRB345, DQA1, DQB1, DPA1, DPB1

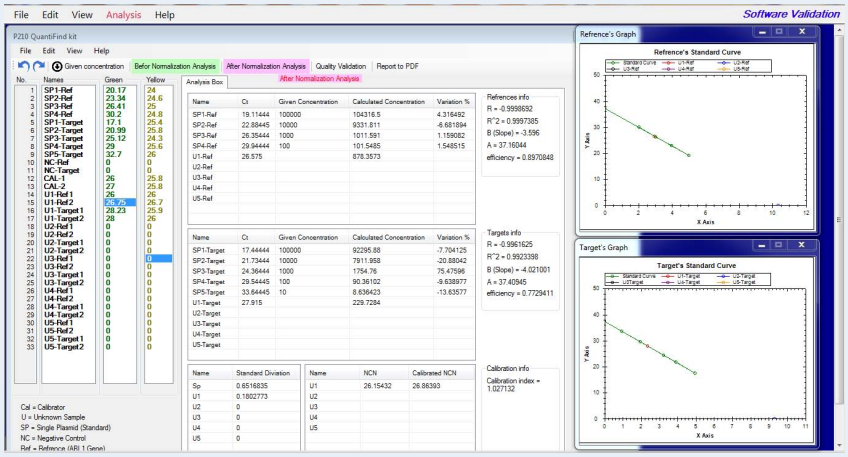
1- Primers and Probes Designing, Optimization and Validation (2017 - 2018)
2- DATA validation on control cell line
3- Normalization on 35 sample (2017-2018)
4- Validation on 65 samples of predefined donor (2018 – 2019)
5- Clinical Trials (2019)



Data Analyzer Software

Quantitative Kits

- Easy to use (Copy/Paste and Analysis)
- Quality Validation
  - R^2
  - Slop
  - Efficiency
  - Calibrator index
  - …
- Standard Curve (Target and Reference)
- Normalized copy Number Calculation (NCN)
- Calibrated NCN Calculation (C_{NCN})
- Report to PDF



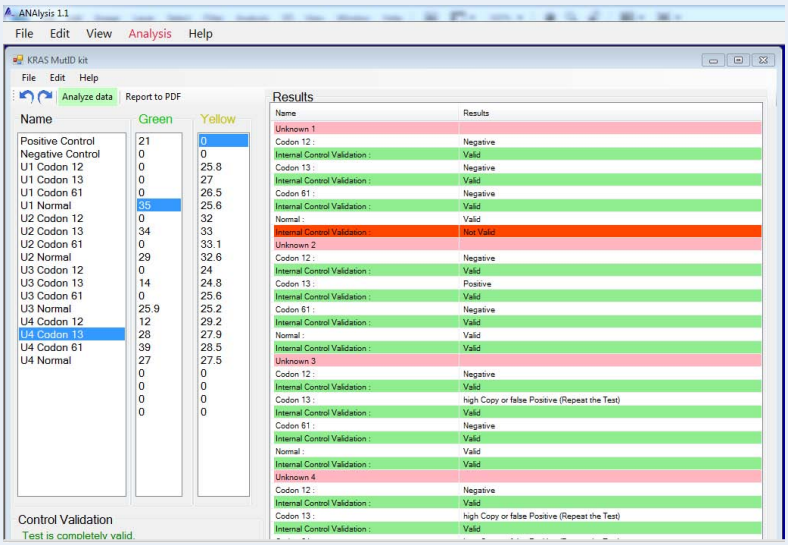
NCN Calculation → Intra Sample Normalization (between Reference and Target)

New

C_{NCN} Calculation → Inter Samples Normalization (before and after treatment)

Qualitative Kits

- Easy to use (Copy/Paste and Analysis)
- Control Validation
- Internal Control Validation
- Positive and Negative Determination
- Report to PDF



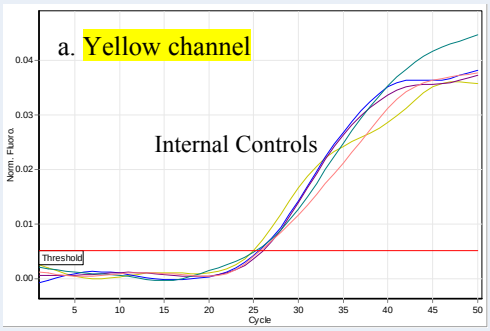
Leukemia Panel

Acute lymphoblastic leukemia (**ALL**) is a form of leukemia, or cancer of the white blood cells characterized by excess lymphoblasts. Malignant, immature white blood cells continuously multiply and are overproduced in the bone marrow. ALL causes damage and death by crowding out normal cells in the bone marrow, and by spreading (infiltrating) to other organs. ALL is most common in childhood with a peak incidence at 2–5 years of age, and another peak in old age. Initial symptoms are not specific to ALL, but worsen to the point that medical help is sought. They result from the lack of normal and healthy blood cells because they are crowded out by malignant and immature leukocytes. Damage to DNA can be caused through the formation of fusion genes, as well as the dysregulation of a proto-oncogene via juxtaposition of it to the promoter of another gene, e.g. the T-cell receptor gene. It is known that some of the Cytogenetic translocations associated with specific molecular genetic abnormalities in ALL.

ALL TransFind Kit is based on Real-time PCR – Taqman Probe technology for detection of important translocations of ALL. Translocations that available in this kit including E2A/PBX1, TEL/AML1, mBCR/ABL (P190), MLL/AF4 and SIL/TAL1. The fusion transcripts are detected in the FAM (Green) channel and Internal control (ABL1 gene) is detected in the HEX/JOE (Yellow) channel.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	E2A/PBX1, TEL/AML1, mBCR/ABL (p190), MLL/AF4 and SIL/TAL1
Specimen Required	RNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



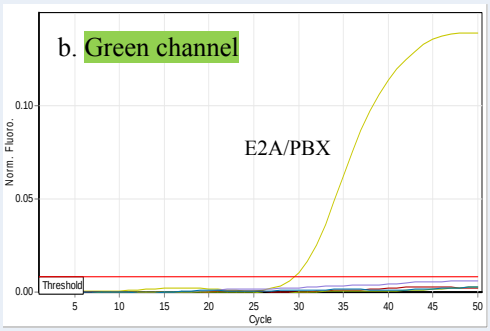


Fig. Amplification signal and Ct values of a E2A/PBX positive sample tested by ALL TransFind Kit.

Components

- SIL/TAL1qPCR Mix
- TEL/AML1 qPCR Mix
- E2A/PBX qPCR Mix
- BCR/ABL (P190) qPCR Mix
- MLL/AF4 qPCR Mix
- Positive Control Mix
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, MSDS…)

Order

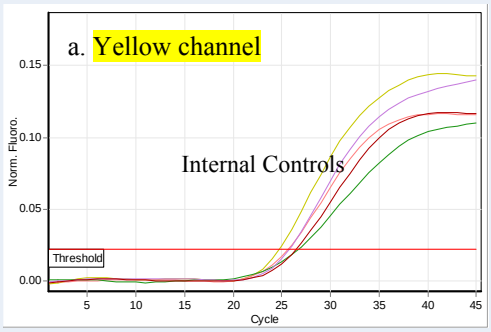
Cat. No.	**Description** (12samples)
K2001 (12samples)	2X version , 12 samples
K2001L	Lyophilized version , 12 samples (containing Lyophilized qPCR Mixes)

Acute myeloid leukemia (AML) is a cancer of the myeloid line of blood cells, characterized by the rapid growth of abnormal white blood cells that accumulate in the bone marrow and interfere with the production of normal blood cells. AML is the most common acute leukemia affecting adults, and its incidence increases with age. The symptoms of AML include fatigue, shortness of breath, easy bruising and bleeding, and increased risk of infection. A number of risk factors for developing AML have been identified, including: other blood disorders, chemical exposures, ionizing radiation, and genetics. A sample of marrow or blood is typically also tested for chromosomal translocations by routine cytogenetics, fluorescent in situ hybridization and RT-PCR.

AML TransFind Kit is based on Real-time PCR – Taqman Probe technology for detection of important translocations of AML. Translocations that available in this kit including AML1/ETO - t(8;21), CBFb/MYH11 - inv(16), MLL/AF9 - t(9;11), MLL/AF6 – t(6;11) and PML/RARa -t(15;17). The fusion transcripts are detected in the FAM (Green) channel and Internal control (ABL1 gene) is detected in the HEX/JOE (Yellow) channel.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	AML1/ETO, CBFb/MYH11, MLL/AF9, MLL/AF6 and PML/RARa
Specimen Required	RNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



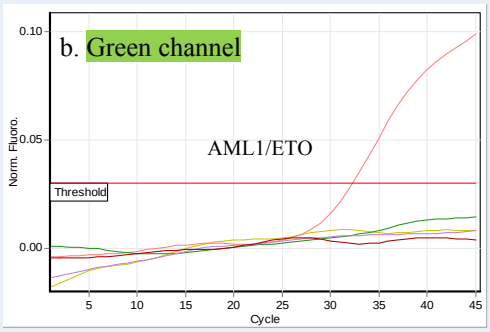


Fig. Amplification signal and Ct values of an AML1/ETO positive sample tested by AML TransFind Kit.

Components

- CBFB/MYH11qPCR Mix
- AML1/ETO qPCR Mix
- PML/RARa qPCR Mix
- MLL/AF6 qPCR Mix
- MLL/AF9 qPCR Mix
- Positive Control Mix
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, MSDS…)

Order

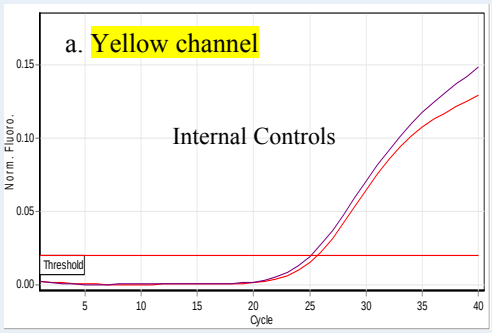
Cat. No.	**Description** (12samples)
K2002	2X version , 12 samples
K2002L	Lyophilized version , 12 samples (containing Lyophilized qPCR Mixes)

Acute promyelocytic leukemia (APL) is a subtype of acute myelocytic leukemia (AML), a cancer of the blood and bone marrow. It is also known as acute progranulocytic leukemia; APL; AML with t(15;17)(q24;q21), PML-RARA and variants; FAB subtype M3 and M3 variant. In APL there is an overabundance of immature blood cells called "promyelocytes" and deficiency in mature white blood cells. 90% of APL patients consist of PML-RARA and RARA-PML type accounts for ~10% of all cases. APL is associated with an exchange of DNA from chromosome 15 and chromosome 17, creating a fusion gene PML-RARA that is a transcriptional repressor. Depending on the location of breakpoints within the PML site, intron 6, exon 6 and intron 3, the respective PML-RARa transcript subtypes referred to as long (L or BCR1), variant (V or BCR2) and short (S or BCR3), may be formed. Among the methods most commonly used for detection, assays based on real-time PCR technology offer the great sensitivity and specificity.

APL TransFind Kit is based on Real-time PCR – Taqman Probe technology for detection of PML/RARa for specific BCR1 and BCR3 fusion transcripts in human clinical samples by two separate PCR reactions. The fusion transcripts are detected in the FAM (Green) channel and Internal control (ABL1 gene) is detected in the HEX/JOE (Yellow) channel.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	PML/RARa, 2 variants: BCR1 and BCR3
Specimen Required	RNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



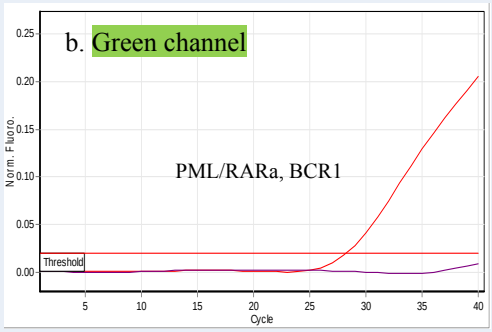


Fig. Amplification signal and Ct values of a BCR1 positive sample tested by APL TransFind Kit.

Components

- 24 ready to use BCR1 qPCR tubes
- 24 ready to use BCR3 qPCR tubes
- Positive Control Mix
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2003	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2003L	Lyophilized version including 24 ready to use lyophilized qPCR mix
K2003S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2003SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

Chronic myeloid leukemia (CML) belongs to the group of Myeloproliferative Neoplasms and is in > 90% of cases characterized by the presence of the Philadelphia chromosome (Ph CHRS). This chromosome is the product of a reciprocal translocation between the long arms of chromosomes 9 and 22, t(9;22), BCR (Breakpoint Cluster Region) being located on Chromosome 22 and the c-ABL oncogene coming from Chromosome 9. The different fusion proteins encoded by *BCR-ABL* vary in size depending on the breakpoint in the *BCR* gene but share a high tyrosine kinase activity, in part responsible for the leukemogenesis. Three breakpoint cluster regions in the *BCR* gene have been described to date: major (M-bcr or P210), minor (m-bcr or P190) and micro (µ-bcr or P230).
CML TransFind Kit is based on Real-time PCR – Taqman Probe technology for detection of BCR/ABL fusions, P210 (b3a2, b2a2, b2a3 and b3a3) and P230 (e19a2 and e19a3) in human clinical samples. The fusion transcripts are detected in the FAM (Green) channel and Internal control (ABL1 gene) is detected in the HEX/JOE (Yellow) channel.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	BCR/ABL, 2 variants: P210 and P230
Specimen Required	RNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific

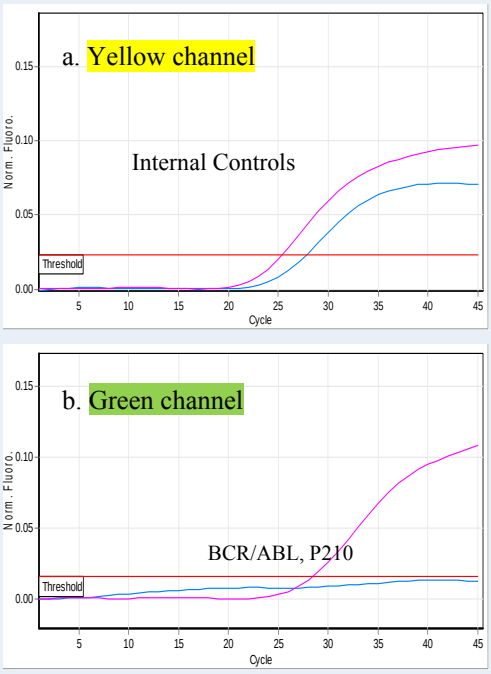


Fig. Amplification signal and Ct values of a p210 positive sample tested by CML TransFind Kit.

Components

- 24 ready to use P210 qPCR tubes
- 24 ready to use P230 qPCR tubes
- Positive Control Mix
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

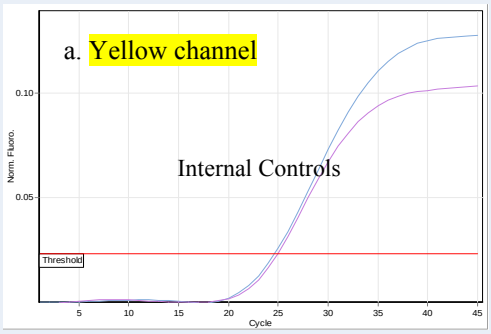
Cat. No.	**Description** (24 samples)
K2004	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2004L	Lyophilized version including 24 ready to use lyophilized qPCR mix
K2004S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2004SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

Chronic myeloid leukemia (CML) belongs to the group of Myeloproliferative Neoplasms and is in > 90% of cases characterized by the presence of the Philadelphia chromosome (Ph CHRS). This chromosome is the product of a reciprocal translocation between the long arms of chromosomes 9 and 22, t(9;22), BCR (Breakpoint Cluster Region) being located on Chromosome 22 and the c-ABL oncogene coming from Chromosome 9. The different fusion proteins encoded by *BCR-ABL* vary in size depending on the breakpoint in the *BCR* gene but share a high tyrosine kinase activity, in part responsible for the leukemogenesis. Three breakpoint cluster regions in the *BCR* gene have been described to date: major (M-bcr or P210), minor (m-bcr or P190) and micro (µ-bcr or P230).

P210 TransFind Kit is based on Real-time PCR – Taqman Probe technology for detection of BCR/ABL P210 (b3a2, b2a2, b2a3 and b3a3) fusion transcript in human clinical samples. The fusion transcripts are detected in the FAM (Green) channel and Internal control (ABL1 gene) is detected in the HEX/JOE (Yellow) channel.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	BCR/ABL, P210 fusion transcripts (MBCR)
Specimen Required	RNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



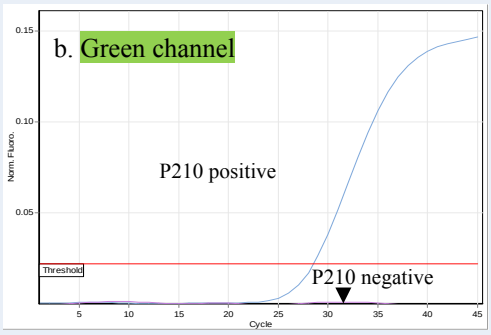


Fig. Amplification signal and Ct values of a P210 positive sample tested by P210 TransFind Kit.

Components

- 24 ready to use P210 qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

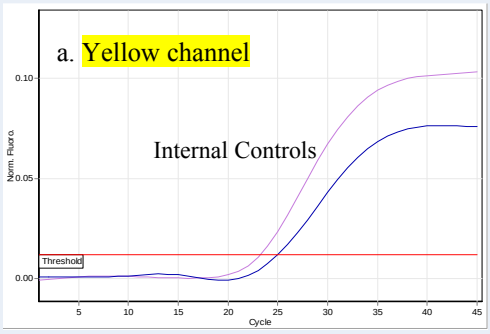
Cat. No.	**Description** (24 samples)
K2040	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2040L	Lyophilized version including 24 ready to use lyophilized qPCR mix
K2040S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2040SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

Chronic myeloid leukemia (CML) belongs to the group of Myeloproliferative Neoplasms and is in > 90% of cases characterized by the presence of the Philadelphia chromosome (Ph CHRS). This chromosome is the product of a reciprocal translocation between the long arms of chromosomes 9 and 22, t(9;22), BCR (Breakpoint Cluster Region) being located on Chromosome 22 and the c-ABL oncogene coming from Chromosome 9. The different fusion proteins encoded by *BCR-ABL* vary in size depending on the breakpoint in the *BCR* gene but share a high tyrosine kinase activity, in part responsible for the leukemogenesis. Three breakpoint cluster regions in the *BCR* gene have been described to date: major (M-bcr or P210), minor (m-bcr or P190) and micro (µ-bcr or P230).

P190 TransFind Kit is based on Real-time PCR – Taqman Probe technology for detection of BCR/ABL P190 (e1a2 and e1a3) fusion transcript in human clinical samples. The fusion transcripts are detected in the FAM (Green) channel and Internal control (ABL1 gene) is detected in the HEX/JOE (Yellow) channel.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	BCR/ABL, P190 fusion transcripts (mBCR)
Specimen Required	RNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



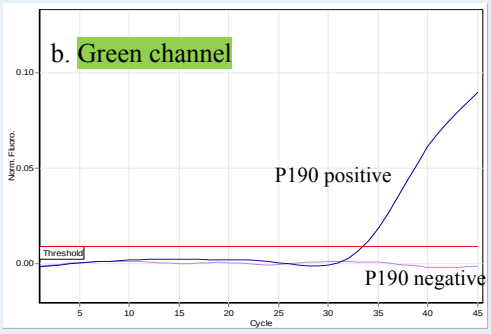


Fig. Amplification signal and Ct values of a P190 positive sample tested by P190 TransFind Kit.

Components

- 24 ready to use P190 qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

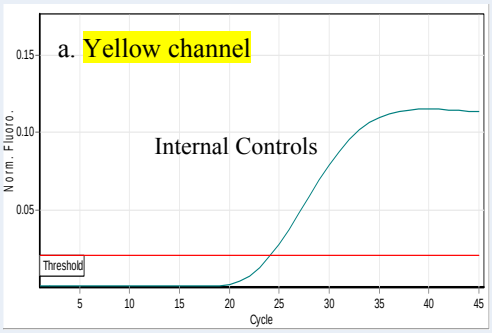
Cat. No.	**Description** (24 samples)
K2041	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2041L	Lyophilized version including 24 ready to use lyophilized qPCR mix
K2041S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2041SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

Chronic myeloid leukemia (CML) belongs to the group of Myeloproliferative Neoplasms and is in > 90% of cases characterized by the presence of the Philadelphia chromosome (Ph CHRS). This chromosome is the product of a reciprocal translocation between the long arms of chromosomes 9 and 22, t(9;22), BCR (Breakpoint Cluster Region) being located on Chromosome 22 and the c-ABL oncogene coming from Chromosome 9. The different fusion proteins encoded by *BCR-ABL* vary in size depending on the breakpoint in the *BCR* gene but share a high tyrosine kinase activity, in part responsible for the leukemogenesis. Three breakpoint cluster regions in the *BCR* gene have been described to date: major (M-bcr or P210), minor (m-bcr or P190) and micro (µ-bcr or P230).

P230 TransFind Kit is based on Real-time PCR – Taqman Probe technology for detection of BCR/ABL P230 (e19a2 and e19a3) fusion transcript in human clinical samples. The fusion transcripts are detected in the FAM (Green) channel and Internal control (ABL1 gene) is detected in the HEX/JOE (Yellow) channel.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	BCR/ABL, P230 fusion transcripts (µBCR)
Specimen Required	RNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



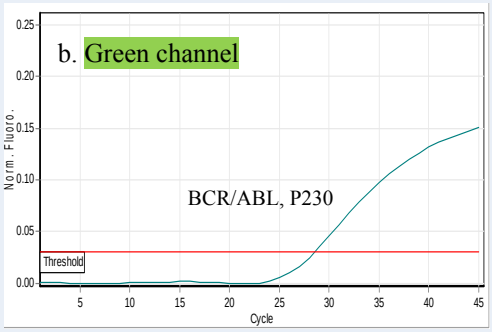


Fig. Amplification signal and Ct values of a P230 positive sample tested by P230 TransFind Kit.

Components

- 24 ready to use P230 qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

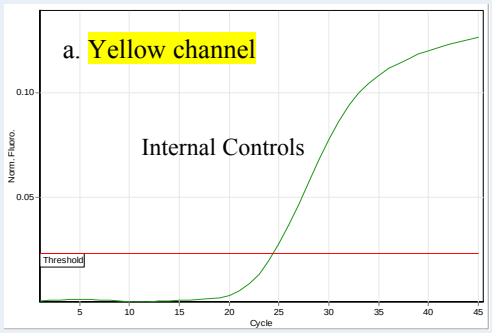
Cat. No.	**Description** (24 samples)
K2042	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2042L	Lyophilized version including 24 ready to use lyophilized qPCR mix
K2042S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2042SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

Acute promyelocytic leukemia (APL) is a subtype of acute myelocytic leukemia (AML), a cancer of the blood and bone marrow. It is also known as acute progranulocytic leukemia; APL; AML with t(15;17)(q24;q21), PML-RARA and variants; FAB subtype M3 and M3 variant. In APL there is an overabundance of immature blood cells called "promyelocytes" and deficiency in mature white blood cells. 90% of APL patients consist of PML-RARA and RARA-PML type accounts for ~10% of all cases. APL is associated with an exchange of DNA from chromosome 15 and chromosome 17, creating a fusion gene PML-RARA that is a transcriptional repressor. Depending on the location of breakpoints within the PML site, intron 6, exon 6 and intron 3, the respective PML-RARa transcript subtypes referred to as long (L or BCR1), variant (V or BCR2) and short (S or BCR3), may be formed. Among the methods most commonly used for detection, assays based on real-time PCR technology offer the great sensitivity and specificity.

BCR1 TransFind Kit is based on Real-time PCR – Taqman Probe technology for detection of PML/RARa BCR1 breakpoint in human clinical samples. The fusion transcripts are detected in the FAM (Green) channel and Internal control (ABL1 gene) is detected in the HEX/JOE (Yellow) channel.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	PML/RARa, BCR1 breakpoint
Specimen Required	RNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



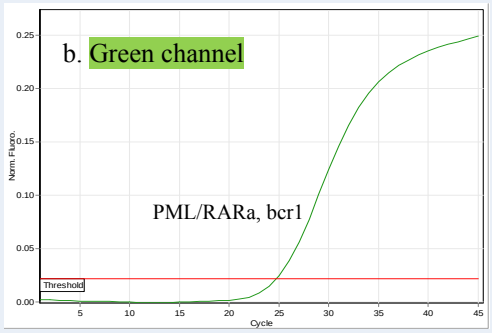


Fig. Amplification signal and Ct values of a BCR1 positive sample tested by BCR1TransFind Kit.

Components

- 24 ready to use BCR1 qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2043	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2043L	Lyophilized version including 24 ready to use lyophilized qPCR mix
K2043S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2043SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

Acute promyelocytic leukemia (APL) is a subtype of acute myelocytic leukemia (AML), a cancer of the blood and bone marrow. It is also known as acute progranulocytic leukemia; APL; AML with t(15;17)(q24;q21), PML-RARA and variants; FAB subtype M3 and M3 variant. In APL there is an overabundance of immature blood cells called "promyelocytes" and deficiency in mature white blood cells. 90% of APL patients consist of PML-RARA and RARA-PML type accounts for ~10% of all cases. APL is associated with an exchange of DNA from chromosome 15 and chromosome 17, creating a fusion gene PML-RARA that is a transcriptional repressor. Depending on the location of breakpoints within the PML site, intron 6, exon 6 and intron 3, the respective PML-RARa transcript subtypes referred to as long (L or BCR1), variant (V or BCR2) and short (S or BCR3), may be formed. Among the methods most commonly used for detection, assays based on real-time PCR technology offer the great sensitivity and specificity.

BCR2 TransFind Kit is based on Real-time PCR – Taqman Probe technology for detection of PML/RARa BCR2 breakpoint in human clinical samples. The fusion transcripts are detected in the FAM (Green) channel and Internal control (ABL1 gene) is detected in the HEX/JOE (Yellow) channel.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	PML/RARa, BCR2 breakpoint
Specimen Required	RNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific

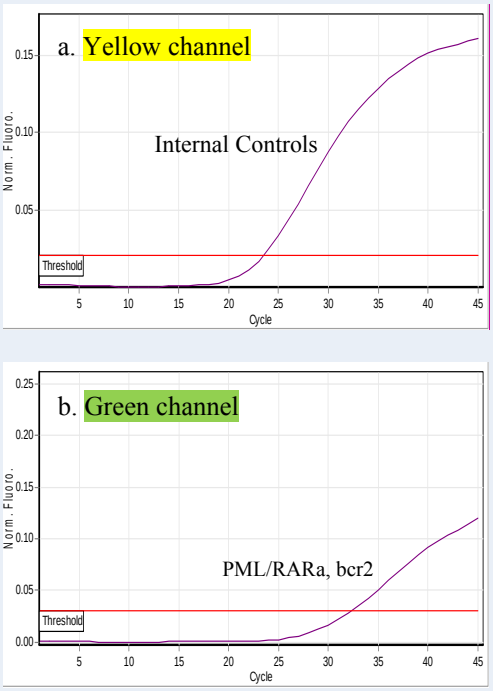


Fig. Amplification signal and Ct values of a BCR2 positive sample tested by BCR2 TransFind Kit.

Components

- 24 ready to use BCR2 qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2044	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2044L	Lyophilized version including 24 ready to use lyophilized qPCR mix
K2044S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2044SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

Acute promyelocytic leukemia (APL) is a subtype of acute myelocytic leukemia (AML), a cancer of the blood and bone marrow. It is also known as acute progranulocytic leukemia; APL; AML with t(15;17)(q24;q21), PML-RARA and variants; FAB subtype M3 and M3 variant. In APL there is an overabundance of immature blood cells called "promyelocytes" and deficiency in mature white blood cells. 90% of APL patients consist of PML-RARA and RARA-PML type accounts for ~10% of all cases. APL is associated with an exchange of DNA from chromosome 15 and chromosome 17, creating a fusion gene PML-RARA that is a transcriptional repressor. Depending on the location of breakpoints within the PML site, intron 6, exon 6 and intron 3, the respective PML-RARa transcript subtypes referred to as long (L or BCR1), variant (V or BCR2) and short (S or BCR3), may be formed. Among the methods most commonly used for detection, assays based on real-time PCR technology offer the great sensitivity and specificity.
BCR1 TransFind Kit is based on Real-time PCR – Taqman Probe technology for detection of PML/RARa BCR3 breakpoint in human clinical samples. The fusion transcripts are detected in the FAM (Green) channel and Internal control (ABL1 gene) is detected in the HEX/JOE (Yellow) channel.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	PML/RARa, BCR3 breakpoint
Specimen Required	RNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific

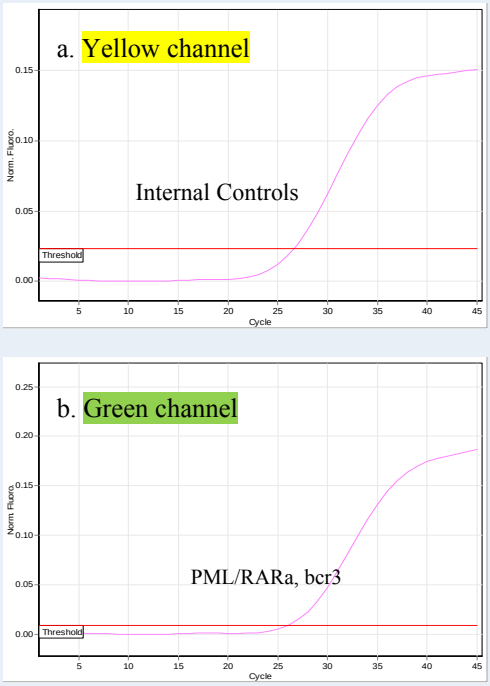


Fig. Amplification signal and Ct values of a BCR3 positive sample tested by BCR3 TransFind Kit.

Components

- 24 ready to use BCR3 qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

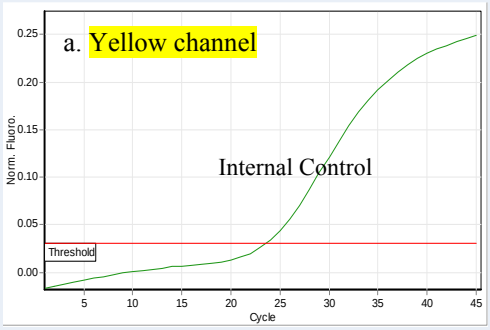
Order

Cat. No.	**Description** (24 samples)
K2045	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2045L	Lyophilized version including 24 ready to use lyophilized qPCR mix
K2045S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2045SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

t(8;21) (*AML1-ETO*) is a common recurrent translocation (~12% overall) in both childhood and adult AML. This translocation is primarily a *de novo*, or idiopathicevent, by the lack of identified causal exposure in most of the cases. t(8;21) occasionally occurs in leukemias associated with prior exposure to cancer chemotherapy of both alkylator and topoisomerase II inhibitor activity, and has also been reported in leukemias associated with certain occupational exposures. *AML1* is occasionally fused to other partners in therapy-related leukemias, including *EVI-1/MDS/EAP*, *MTG16*, and other partners in chromosomes 1, 12, 14 and others. *AML1-ETO* fusion produces a chimeric oncoprotein consisting of the *runt*-homology domain of *AML1* on chromosome 21 fused to nearly the entire gene of *ETO* on chromosome. *AML1* and *ETO* are both involved in transcriptional regulation of genes in hematopoietic precursor cells. Among the methods most commonly used for detection, assays based on real-time PCR technology offer the great sensitivity and specificity.
AML/ETO TransFind Kit is based on Real-time PCR – Taqman Probe technology for detection of AML1/ETO fusion. The fusion transcript is detected in the FAM (Green) channel and Internal control (ABL1 gene) is detected in the HEX/JOE (Yellow) channel.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	AML1/ETO
Specimen Required	RNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



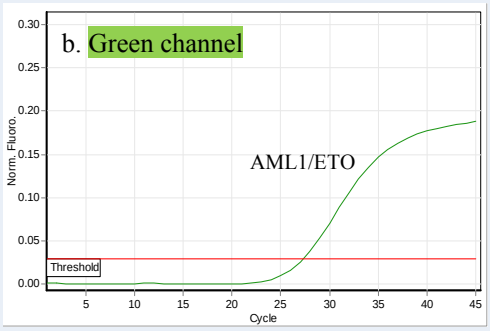


Fig. Amplification signal and Ct values of an AML1/ETO positive sample tested by AML/ETO TransFind Kit.

Components

- 24 ready to use AML1/ETO qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

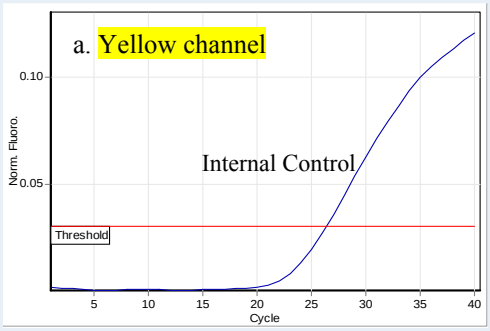
Cat. No.	**Description** (24 samples)
K2009	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2009L	Lyophilized version including 24 ready to use lyophilized qPCR mix
K2009S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2009SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

The pericentric inversion of chromosome 16(p13;q22), and less frequently the t(16;16) (p13;q22) translocation, accounts for 16% of the chromosomal aberrations associated with AML. This inversion results in fusion of the core binding factor beta (*CBFB*) gene on 16q22 with the smooth muscle myosin heavy chain gene (*MYH11*) on 16p13, leading to the formation of a chimeric *CBFb/MYH11* fusion protein. The N-terminal of CBFb fuses to the C-terminal of MYH11 with its multimerisation domain. The resultant chimeric protein reduces the amount of active CBF. An accumulation of CBFb-MYH11/CBFa multimers in the nucleus also occurs. Clinically, the inv(16) or t(16;16) is associated with AML with abnormal eosinophils (French–American–British classification M_4E_0 subtype), with abnormal eosinophils being part of the malignant clone. Patients with inv(16) or t(16;16) generally have relatively good response and long-term disease-free survival rates.

CBFb/MYH11 TransFind Kit is based on Real-time PCR – Taqman Probe technology for detection of CBFb/MYH11 - inv(16) fusion. The fusion transcript is detected in the FAM (Green) channel and Internal control (ABL1 gene) is detected in the HEX/JOE (Yellow) channel.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	CBFb/MYH11, 3 variants: type A, D, E
Specimen Required	RNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, ighly sensitive and specific



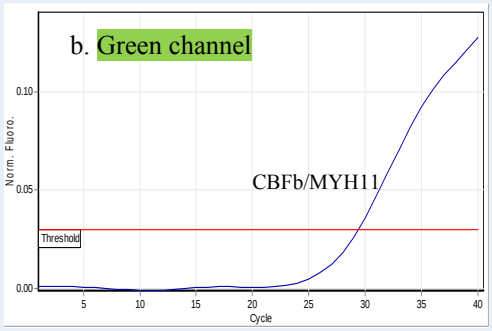


Fig. Amplification signal and Ct values of a CBFb/MYH11 positive sample tested by CBFb/MYH11 TransFind Kit.

Components

- 24 ready to use CBFb/MYH11 qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2010	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2010L	Lyophilized version including 24 ready to use lyophilized qPCR mix
K2010S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2010SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

E2A/PBX1 TransFind™ Kit

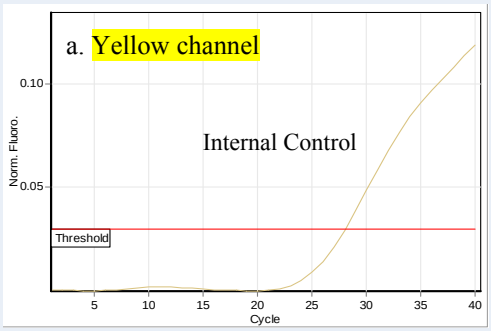
Real-time PCR – Taqman Probe Technology

E2A-PBX1 fusion protein (also named *TCF3/PBX1)* contains the transactivation domain of E2A and the DNA-binding domain of PBX1 and is generated by t(1;19)(q23;p13) translocation. t(1;19) occurs in 5% of pre-B-cell acute lymphoid leukemias (ALL) in children and adults and E2A-PBX1 has been widely characterized in ALL. E2A-PBX1 can cause transformation in several cell types in vitro and induce lymphoblastic lymphomas in transgenic mice. Target genes of E2A-PBX1 includes fibroblast growth factor (FGF)-15, WNT-16, and some novel genes. The t(1;19) is detected in about 5–6% of childhood ALL and in about 3% of adult ALL. Among the methods most commonly used for detection, assays based on real-time PCR technology offer the great sensitivity and specificity.

E2A/PBX1 TransFind Kit is based on Real-time PCR – Taqman Probe technology for detection of E2A/PBX1 - t(1;19) fusion. The fusion transcript is detected in the FAM (Green) channel and Internal control (ABL1 gene) is detected in the HEX/JOE (Yellow) channel.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	E2A/PBX1
Specimen Required	RNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



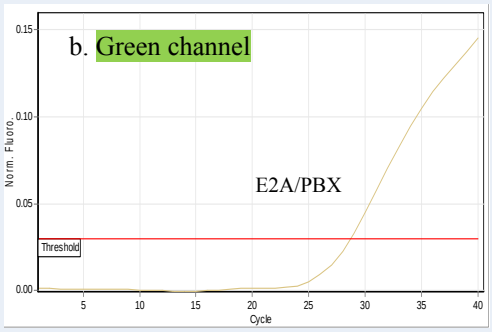


Fig. Amplification signal and Ct values of an E2A/PBX positive sample tested by E2A/PBX1 TransFind Kit.

Components

- 24 ready to use E2A/PBX qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2007	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2007L	Lyophilized version including 24 ready to use lyophilized qPCR mix
K2007S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2007SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

MLL/AF4 TransFind™ Kit

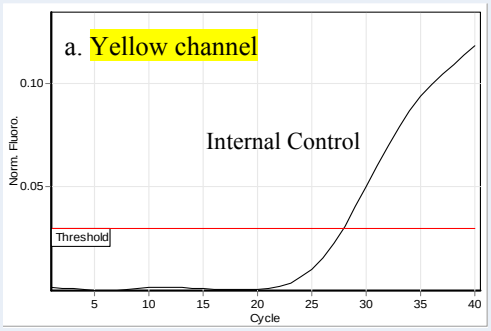
Real-time PCR – Taqman Probe Technology

The mixed lineage leukemia 1 protein (MLL) regulates HOX gene expression through the H3 lysine 4 (K4) methyltransferase activity of its C-terminal catalytic domain. Rearrangements of the MLL gene are associated with aggressive acute leukemias, the most common of which are balanced chromosomal translocations that fuse N-terminal sequences in frame to over 50 different fusion partner proteins. MLL fusion-transformed hematopoietic progenitor cells exhibit a persistent expression of MLL target genes that is correlated with persistent H3K4 trimethylation (mediated by MLL expressed from the nonrearranged allele) and an increase in histone H3-K79 methylation by DOT1. Infant pro-B acute lymphoblastic leukemia (ALL) harboring the fusion MLL-AF4 is characterized by a very brief latency and dismal prognosis, raising the question of how this infant cancer evolves so quickly. Among the methods most commonly used for detection, assays based on real-time PCR technology offer the great sensitivity and specificity.

MLL/AF4 TransFind Kit is based on Real-time PCR – Taqman Probe technology for detection of MLL/AF4 - t(4;11) fusion. The fusion transcript is detected in the FAM (Green) channel and Internal control (ABL1 gene) is detected in the HEX/JOE (Yellow) channel.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	MLL/AF4
Specimen Required	RNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



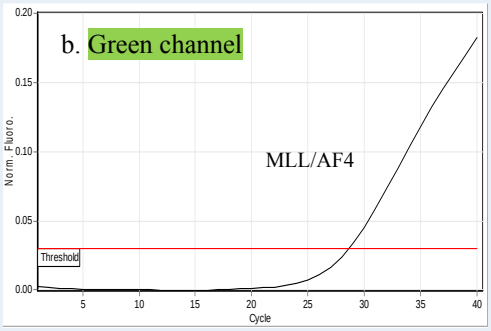


Fig. Amplification signal and Ct values of a MLL/AF4 positive sample tested by MLL/AF4 TransFind Kit.

Components

- 24 ready to use MLL/AF4 qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

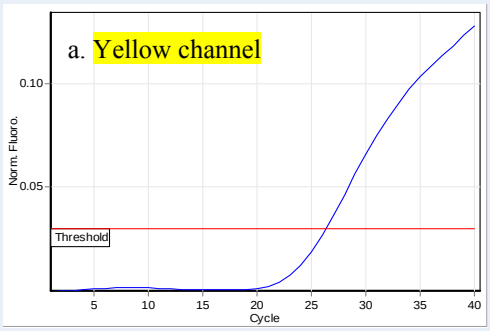
Cat. No.	**Description** (24 samples)
K2008	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2008L	Lyophilized version including 24 ready to use lyophilized qPCR mix
K2008S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2008SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

The *MLL* gene has been found translocated to over 50 different partner genes in acute leukemia. Certain partner genes are associated with distinct leukemia subtypes, e.g. *MLL-AF4* with pro B acute lymphoblastic leukemia (ALL) and *MLL-AF9, -AF6* and *-AF10* with acute myeloid leukemia (AML) of M4 and M5 subtypes. MLL and AF9 wildtype proteins play essential roles in embryogenesis and hematopoiesis and are parts of protein complexes leading to transcriptional initiation (MLL) and elongation (AF9) of target genes. The fusion protein MLL-AF9 is believed to combine these properties, leading to increased activation of target genes via transcriptional initiation and elongation. The MLL/AF9 fusion gene is the most frequent MLL rearrangement in childhood AML and associated with aggressive leukemia of both the myeloid and lymphoid lineage in infants, whereas in adults, this translocation is mainly associated with acute myeloid leukemia. Furthermore, MLL/AF9 may be also found in ALL of patients younger than 1-year-old (infants).

MLL/AF9 TransFind Kit is based on Real-time PCR – Taqman Probe technology for detection of MLL/AF9 - t(9;11) fusion. The fusion transcript is detected in the FAM (Green) channel and Internal control (ABL1 gene) is detected in the HEX/JOE (Yellow) channel.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	MLL/AF9
Specimen Required	RNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



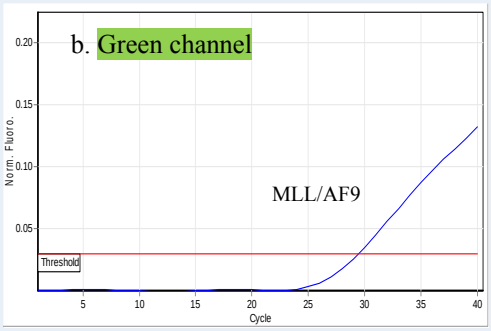


Fig. Amplification signal and Ct values of a MLL/AF9 positive sample tested by MLL/AF9 TransFind Kit.

Components

- 24 ready to use MLL/AF9 qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2011	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2011L	Lyophilized version including 24 ready to use lyophilized qPCR mix
K2011S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2011SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

SIL/TAL1 TransFind™ Kit

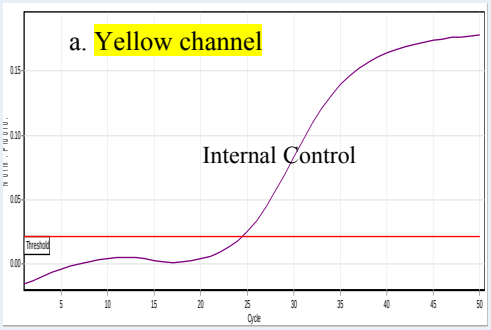
Real-time PCR – Taqman Probe Technology

Disruption of the *TAL1* gene on chromosome 1p32 [del (1p)] is a common rearrangement in the development of T-cell acute lymphocytic leukemia (T-ALL). Approximately 25% of all childhood T-ALLs bear specific *TAL1* gene rearrangement. These 90 kb interstitial deletions place the coding part of the *TAL1* gene under the control of the first non-coding exon of the SCL interrupting locus (*SIL*) gene. Aberrant V(D)J recombinase activity is thought to be responsible resulting in a gain of function mutation in T-ALL. Patients bearing *SIL-TAL1* rearrangement (*SIL-TAL1*$^{+}$) are defined by distinct clinical and biological characteristics such as a high white-blood-cell count and hemoglobin, T-lineage immunophenotype with CD2 expression, and low incidence in adult patients. These tumor-specific rearrangements cannot be detected cytogenetically. Among the methods most commonly used for detection, assays based on real-time PCR technology offer the great sensitivity and specificity.

SIL/TAL1 TransFind Kit is based on Real-time PCR – Taqman Probe technology for detection of SIL/TAL1 fusion. The fusion transcript is detected in the FAM (Green) channel and Internal control (ABL1 gene) is detected in the HEX/JOE (Yellow) channel.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	SIL/TAL1
Specimen Required	RNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



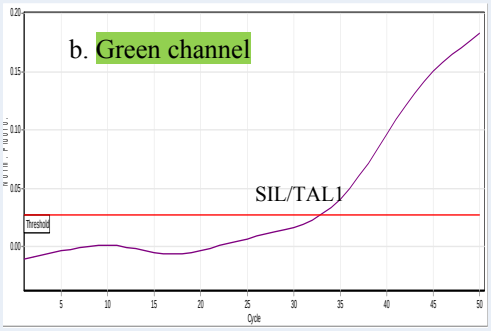


Fig. Amplification signal and Ct values of a SIL/TAL1 positive sample tested by SIL/TAL1 TransFind Kit.

Components

- 24 ready to use SIL/TAL1 qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2005	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2005L	Lyophilized version including 24 ready to use lyophilized qPCR mix
K2005S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2005SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

TEL/AML1 TransFind™ Kit

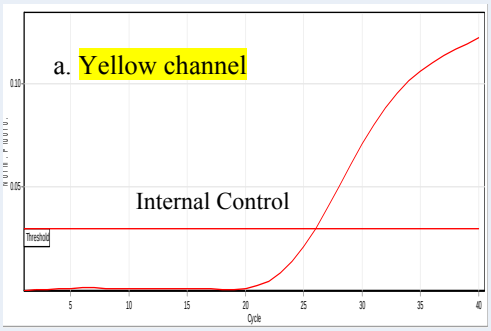
Real-time PCR – Taqman Probe Technology

This translocation fuses the TEL (ETV6) gene on chromosome 12, a member of the ETS family of transcription factors to AML-1 (RUNX1) that encodes the AML-1 transcription factor complex on chromosome 21 which is the most frequent target of myeloid associated translocations**.** The role of the TEL-AML1 oncoprotein in leukemogenesis is still unclear, but data suggest that it directly alters the transcriptional activity of AML1, required for normal hematopoiesis. TEL-AML1 Fusion was reported to occur in approximately 25% of childhood ALL. The majority of positive patients range in age between 1 and 10 years at diagnosis, with a peak between 2 and 5 years. Among the methods most commonly used for detection, assays based on real-time PCR technology offer the great sensitivity and specificity.

TEL/AML1 TransFind is based on Real-time PCR – Taqman Probe technology for detection of TEL/AML1 - t(12;21) fusion. The fusion transcript is detected in the FAM (Green) channel and Internal control (ABL1 gene) is detected in the HEX/JOE (Yellow) channel.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	TEL/AML1
Specimen Required	RNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



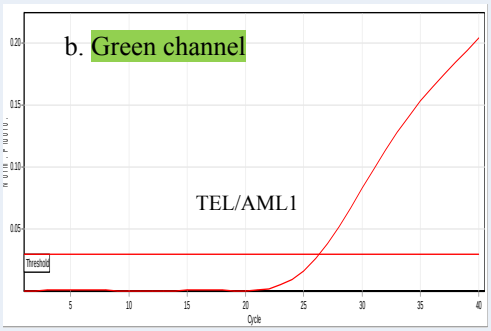


Fig. Amplification signal and Ct values of a TEL/AML positive sample tested by TEL/AML1 TransFind Kit.

Components

- 24 ready to use TEL/AML1 qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2006	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2006L	Lyophilized version including 24 ready to use lyophilized qPCR mix
K2006S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2006SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

JAK2 MutID™ Kit

Real-time PCR – ARMS Taqman Probe Technology

An acquired single nucleotide mutation affecting the Janus Tyrosine Kinase 2 or JAK2 (V617F- c.1849G>T) was first identified in 2005 in patients suffering from polycythemia vera. *JAK2* V617F is a gain-of-function mutation that leads to clonal proliferation. Occuring in the pseudokinase domain of JAK2 in hematopoietic cells, this mutation was shown to be responsible for the constitutive activation of molecular signaling pathways, leading to an uncontrolled cell proliferation in myeloproliferative neoplasms (MPN). This mutation is found in a large proportion of Philadelphia-Negative MPN patients with Polycythemia Vera (>90%), Essential Thrombocythemia (35-70%) and, less frequently in patients with Primary Myelofibrosis (50%). The presence of the JAK2 V617F mutation is considered as a major criterion for diagnosis of MPN (WHO Guidelines 2008). The *JAK2* allele burden decreases with successful therapy, disappear in some patients, and reappears during relapse. In patients with JAK2 V617F positive, treatment response is increasingly evaluated with minimal residual disease assays. Thus, Ana Gene Biotech has been developed and validated a real-time PCR assay for the quantitation of JAK2 V617F mutation to determine minimal residual disease (MRD) in patients with JAK2 V617F positive. This method detectes the mutation with results normalized to JAK2 normal gene as reference control, using the Taqman Probe technology. JAK2 V617V mutation and JAK2 normal are detected in the FAM channel and Internal control (ABL1 gene) is detected in the Yellow channel.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	JAK2 (V617F- c.1849G>T)
Specimen Required	DNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated DNA.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification

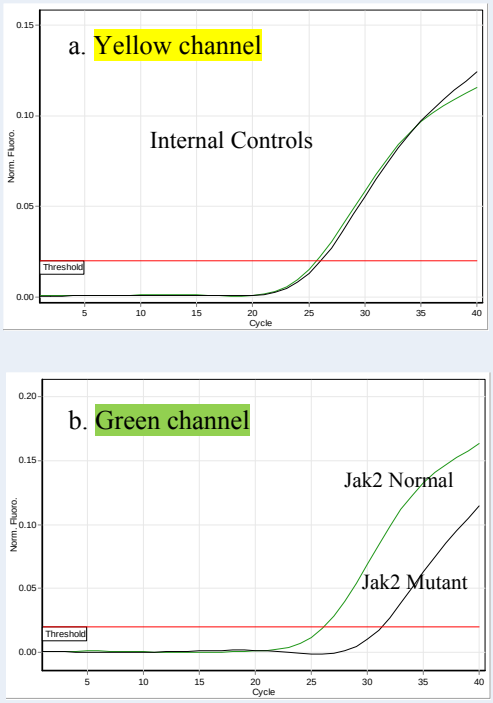


Fig. Amplification signal and Ct values of a JAK2 (V617F) positive and negative sample tested by JAK2 MutID Kit.

Components

- 24 ready to use Mutant qPCR tubes
- 24 ready to use Normal qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2012	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X (two sets)
K2012L	Lyophilized version including 24 ready to use lyophilized qPCR mix (two sets)

MRD Panel

Real-time PCR – Taqman Probe Technology

The term minimal residual disease **(MRD)** in its currently accepted application refers to small numbers of leukemic cells that remain in the patient during treatment or after treatment when the Leukemia patient is in remission (no symptoms of disease). Leukemia involves a genetic abnormality that can begin in a single cell and then multiply rapidly, leading to a disruption in the proportion of cell types in the blood. Assessment of MRD is important as it allows clinicians to assess the extent to which a treatment is working, whether a patient is likely to relapse or if they have acquired a deep remission. It is used to describe residual disease after suboptimal induction chemotherapy, but at the same time refers to the lowest levels of disease potentially compatible with cure or to molecularly defined relapse after long-term remission.

There are some advantages when using "Ana Gene Biotech" MRD panel kits::

1. Easy to use,
2. Specific software to validation, analysis … and report the results as a PDF file,
3. Inexpensive and safe shipment (the lyophilized version kits doesn't need to dry ice),
4. Quantitative standards as single plasmid
5. Normalized the data via "Internal controls" normalization (No need to passive reference dye),
6. NCN (normalized copy number) calculation,
7. Calibrated NCN calculation (to resolve the sampling, extraction and cDNA synthesis bias between samples from one patient in different times).

Specification

Technology	Real-time PCR/TaqMan Probe
Application	Quantitation of molecular abnormality
Specimen Required	RNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	1 leukemic cell in 1000 normal cells (≤0.001% or $\leq 10^{-3}$). This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific

"Ana Gene Biotech" MRD Panel kits

Kit	2X	Lyophilized
P210 QuantiFind kit (BCR/ABL)	K2014	K2014L
P190 QuantiFind kit (BCR/ABL)	K2015	K2015L
P230 QuantiFind kit (BCR/ABL)	K2023	K2023L
BCR1 QuantiFind kit (PML/RARa)	K2016	K2016L
BCR2 QuantiFind kit (PML/ RARa)	K2024	K2024L
BCR3 QuantiFind kit (PML/ RARa)	K2017	K2017L
MLL/AF4 QuantiFind kit	K2018	K2018L
AML1/ETO QuantiFind kit	K2019	K2019L
CBFb/MYH11 QuantiFind kit	K2020	K2020L
MLL/AF9 QuantiFind kit	K2021	K2021L
E2A/PBX1 QuantiFind kit	K2022	K2022L
TEL/AML1 QuantiFind kit	K2025	K2025L
SIL/TAL1 QuantiFind kit	K2071	K2071L

Components

- Target* qPCR Mix
- Reference** qPCR Mix
- Calibrator qPCR Mix
- Target Standards (SP-Targets: 10^6, 10^5, 10^3, 10^2 and 10^1)
- Reference Standards (SP-Refs: 10^5, 10^4, 10^3 and 10^2)
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

- 2X version, 24 reactions (3 – 9 samples)
- Lyophilized version , 24 reactions (3 – 9 samples), containing Lyophilized qPCR Mixes

3 samples in duplicate in three distinct experiments
9 samples in duplicate in one experiment

*: Target is a specific translocation (Target Fusion such as BCR/ABL transcript)
**: Reference refers to ABL1 as reference gene

Thrombophilia Panel

FVL MutID™ Kit

Real-time PCR – ARMS Taqman Probe Technology

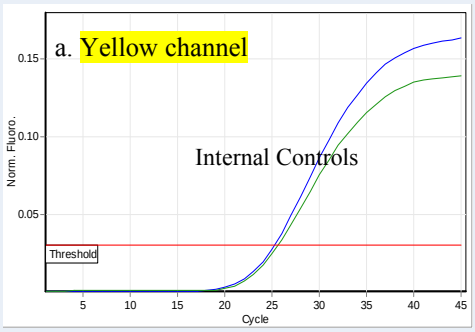
Thrombophilia is an abnormality of blood coagulation that increases the risk of thrombosis. It has been described as a major factor in the pathogenesis of some severe obstetric pathologies, e.g. deep venous thrombosis, pre-eclampsia and intrauterine growth retardation, as well as **pregnancy failure**.

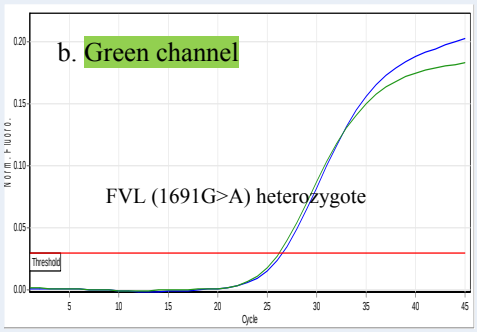
A point mutation in the factor V gene, i.e. guanine to adenine substitution at nucleotide 1691 (1691G>A with protein change p.Arg506Gln), known as **Leiden mutation** which is inherited as an autosomal dominant trait. Studies found that 19% of miscarriage patients carried the factor V Leiden mutation compared to 4% of controls.

FVL MutID Kit (Qualitative Mutation Analysis Real-time PCR Kit) is an *in-vitro* nucleic acid amplification test for the qualitative detection of factor V Leiden mutation in human clinical samples. The kit contains all the reagents necessary for qualitative mutations analysis. The assay is based on Real time PCR with Taqman probe chemistry. The mutation/Normal and Internal Control are detected in the FAM and Yellow channel respectively. The Internal control is designed to efficiently control DNA extraction process and inhibition during the PCR amplification.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	Factor V Leiden (1691G>A)
Specimen Required	DNA from EDTA Whole Blood
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated DNA.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification





Amplification signal and Ct values of heterozygote sample tested by FVL MutID Kit.

Components

- 24 ready to use Mutant qPCR tubes
- 24 ready to use Normal qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2026	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X (two sets)
K2026L	Lyophilized version including 24 ready to use lyophilized qPCR mix (two sets)

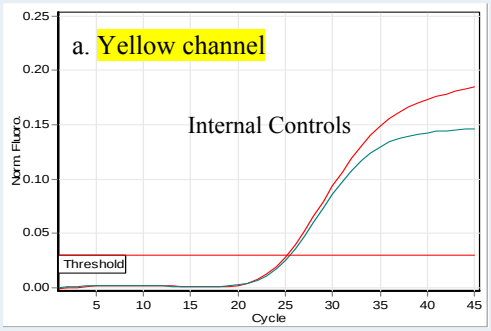
FVHR2 MutID™ Kit

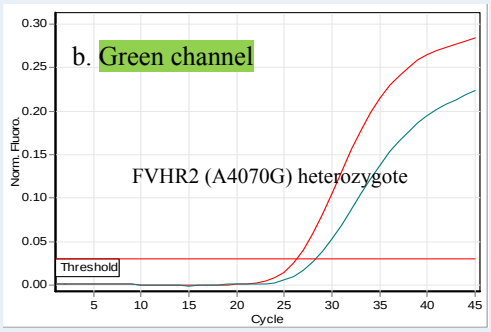
Real-time PCR – ARMS Taqman Probe Technology

When a patient has a tendency to form blood clots, the condition is called thrombophilia. It has been described as a major factor in the pathogenesis of some severe obstetric pathologies, e.g. deep venous thrombosis, pre-eclampsia and intrauterine growth retardation, as well as pregnancy failure. One of the most common abnormalities increasing the risk of venous thrombosis is activated protein C (APC) resistance. The underlying molecular cause responsible for resistance to APC was identified to be a single base alteration within codon 506 of the factor V gene. This mutation, commonly known as factor V Leiden. A further set of polymorphisms in the factor V gene has been previously reported and is characterized by the mutation (A4070G), designated `R2' due to its ability to be cleaved by the restriction enzyme RsaI, and this identifies the HR2 haplotype. The R2 variation is associated with lowered factor V levels and decreased APC ratios. Its association with venous thrombosis has been observed, giving rise to a three-fold increase in thrombotic risk. FVHR2 MutID Kit (Qualitative Mutation Analysis Real-time PCR Kit) is an in-vitro nucleic acid amplification test for the qualitative detection of factor VHR2 mutation in human clinical samples. The assay is based on Real time PCR with Taqman probe chemistry. The mutation/Normal and Internal Control are detected in the FAM and Yellow channel respectively. The Internal control is designed to efficiently control DNA extraction process and inhibition during the PCR amplification.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	Factor FVHR2 (A4070G)
Specimen Required	DNA from EDTA Whole Blood
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated DNA.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification





Amplification signal and Ct values of heterozygote sample tested by FVHR2 MutID Kit.

Components

- 24 ready to use Mutant qPCR tubes
- 24 ready to use Normal qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2027	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X (two sets)
K2027L	Lyophilized version including 24 ready to use lyophilized qPCR mix (two sets)

FII MutID™ Kit

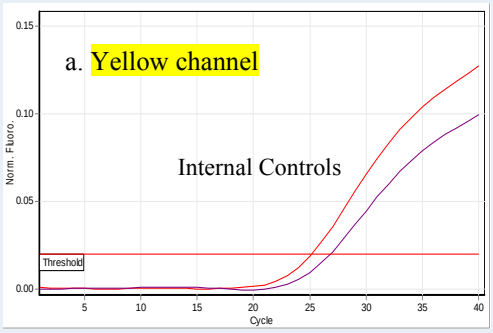
Real-time PCR – ARMS Taqman Probe Technology

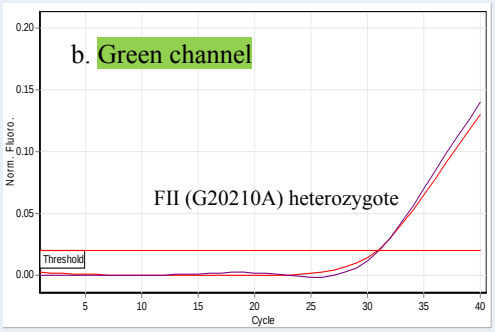
Thrombophilia is an abnormality of blood coagulation that increases the risk of thrombosis. It has been described as a major factor in the pathogenesis of some severe obstetric pathologies, e.g. deep venous thrombosis, pre-eclampsia and intrauterine growth retardation, as well as pregnancy failure. Recent research suggests a possible correlation between inherited thrombophilia and recurrent fetal loss. Genetic markers for these clotting factors include factor V Leiden mutation and **prothrombin G20210A** mutation. Prothrombin is a protein in the blood that is needed for the blood to clot properly. It is also called **factor II** (two). Blood clots are made of platelets and the blood clotting protein 'fibrin'. Prothrombin is a blood clotting protein that is needed to form fibrin. The prothrombin gene mutation causes your body to make too much prothrombin. This makes your blood more likely to form clots, which can be dangerous.

FII MutID Kit (Qualitative Mutation Analysis Real-time PCR Kit) is an *in-vitro* nucleic acid amplification test for the qualitative detection of factor II mutation in human clinical samples. The assay is based on Real time PCR with Taqman probe chemistry. The mutation/Normal and Internal Control are detected in the FAM and Yellow channel respectively. The Internal control is designed to efficiently control DNA extraction process and inhibition during the PCR amplification.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	F II (prothrombin G20210A)
Specimen Required	DNA from EDTA Whole Blood
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated DNA.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification





Amplification signal and Ct values of heterozygote sample tested by FII MutID Kit

Components

- 24 ready to use Mutant qPCR tubes
- 24 ready to use Normal qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2029	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X (two sets)
K2029L	Lyophilized version including 24 ready to use lyophilized qPCR mix (two sets)

FXIII MutID™ Kit

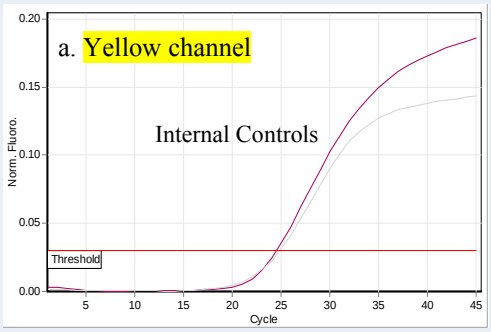
Real-time PCR – ARMS Taqman Probe Technology

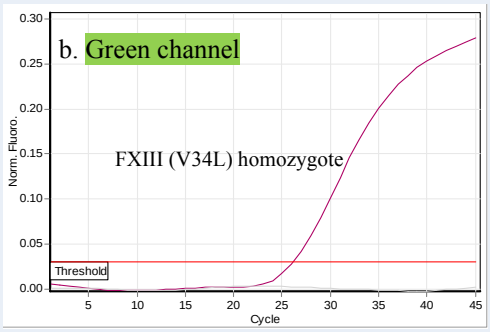
Thrombophilia is a highly prevalent problem, genetic alterations of different blood components can directly or indirectly influence the hemostatic balance and cause a prothrombotic state. More than 10 percent of the population affected by one of the currently known genetic risk factors. Factor XIII (FXIII), also called fibrin stabilizing factor, has a crucial role in the blood coagulation and fibrinolytic pathways. The FXIII Val34Leu variant is a G-to-T transition in exon 2 of the gene encoding for FXIIIA, leading to a valine (Val)- to-leucine (Leu) substitution at amino acid 34. This variant is common in White populations, with a frequency of approximately 0.25–0.30. However, the frequency varies among ethnic groups, with the lowest (0.01) in Japanese and the highest (0.40) in Pima Indians.

FXIII MutID Kit (Qualitative Mutation Analysis Real-time PCR Kit) is an *in-vitro* nucleic acid amplification test for the qualitative detection of **factor XIII V34L mutation** in human clinical samples. The assay is based on Real time PCR with Taqman probe chemistry. The mutation/Normal and Internal Control are detected in the FAM and Yellow channel respectively. The Internal control is designed to efficiently control DNA extraction process and inhibition during the PCR amplification.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	Factor XIII (V34L)
Specimen Required	DNA from EDTA Whole Blood
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated DNA.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification





Amplification signal and Ct values of a FXIII V34L Homozygote sample tested by FXIII MutID

Components

- 24 ready to use Mutant qPCR tubes
- 24 ready to use Normal qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2028	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X (two sets)
K2028L	Lyophilized version including 24 ready to use lyophilized qPCR mix (two sets)

MTHFR 677 MutID™ Kit

Real-time PCR – ARMS Taqman Probe Technology

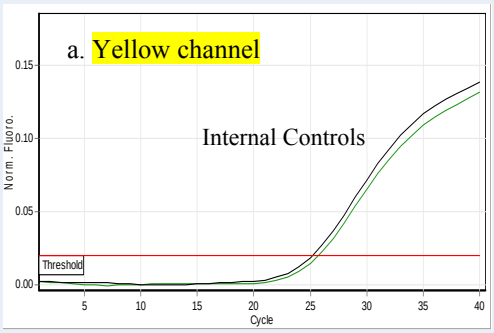
Thrombophilia is an abnormality of blood coagulation that increases the risk of thrombosis. It has been described as a major factor in the pathogenesis of some severe obstetric pathologies, e.g. deep venous thrombosis, pre-eclampsia and intrauterine growth retardation, as well as **pregnancy failure**.

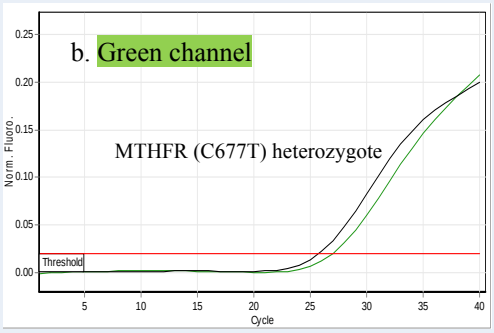
The two common MTHFR gene mutations (C677T and A1298T) occur along the gene. MTHFR mutations have been linked to various adverse pregnancy outcomes: specifically, early fetal loss (most commonly defined as spontaneous abortion in the first or second trimester), late fetal loss (death in the third trimester), preecclampsia, intrauterine growth retardation, placental abruption and neural tube defects.

MTHFR MutID Kit (Qualitative Mutation Analysis Real-time PCR Kit) is an *in-vitro* nucleic acid amplification test for the qualitative detection of MTHFR C677T mutation in human clinical samples. The assay is based on Real time PCR with Taqman probe chemistry. The mutation/Normal and Internal Control are detected in the FAM and Yellow channel respectively. The Internal control is designed to efficiently control DNA extraction process and inhibition during the PCR amplification.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	MTHFR C677T
Specimen Required	DNA from EDTA Whole Blood
Kit Storage	-20 °C
Sensitivity	10 copies /µl. This sensitivity greatly depends on quality of the isolated DNA.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification





Amplification signal and Ct values of heterozygote MTHFR C677T sample tested by MTHFR 677 MutID Kit.

Components

- 24 ready to use Mutant qPCR tubes
- 24 ready to use Normal qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2038	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X (two sets)
K2038L	Lyophilized version including 24 ready to use lyophilized qPCR mix (two sets)

MTHFR 1298 MutID™ Kit

Real-time PCR – ARMS Taqman Probe Technology

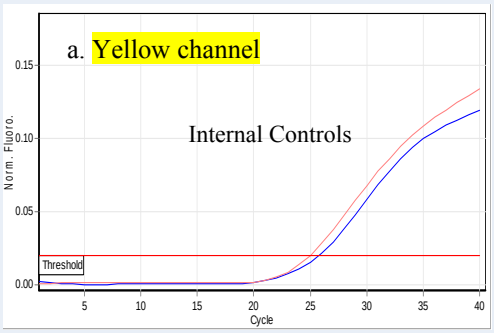
Thrombophilia is an abnormality of blood coagulation that increases the risk of thrombosis. It has been described as a major factor in the pathogenesis of some severe obstetric pathologies, e.g. deep venous thrombosis, pre-eclampsia and intrauterine growth retardation, as well as **pregnancy failure**.

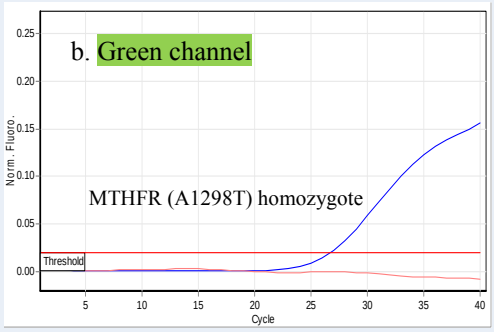
The two common MTHFR gene mutations (C677T and A1298T) occur along the gene. MTHFR mutations have been linked to various adverse pregnancy outcomes: specifically, early fetal loss (most commonly defined as spontaneous abortion in the first or second trimester), late fetal loss (death in the third trimester), preecclampsia, intrauterine growth retardation, placental abruption and neural tube defects.

MTHFR 1298 MutID Kit (Qualitative Mutation Analysis Real-time PCR Kit) is an *in-vitro* nucleic acid amplification test for the qualitative detection of MTHFR A1298T mutation in human clinical samplesThe assay is based on Real time PCR with Taqman probe chemistry. The mutation and Internal Control are detected in the FAM and Yellow channel respectively. The Internal control is designed to efficiently control DNA extraction process and inhibition during the PCR amplification.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	MTHFR A1298T
Specimen Required	DNA from EDTA Whole Blood
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated DNA.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification





Amplification signal and Ct values of MTHFR 1298 homozygote mutant tested by MTHFR 677 MutID Kit.

Components

- 24 ready to use Mutant qPCR tubes
- 24 ready to use Normal qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2039	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X (two sets)
K2039L	Lyophilized version including 24 ready to use lyophilized qPCR mix (two sets)

PAI-I MutID™ Kit

Real-time PCR – ARMS Taqman Probe Technology

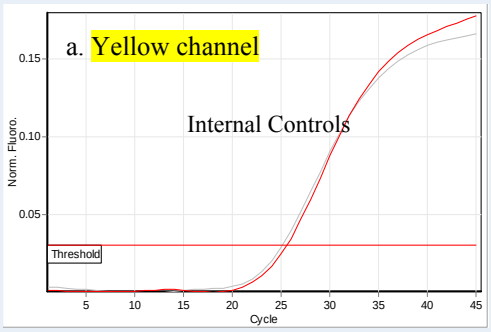
Thrombophilia is a highly prevalent problem, genetic alterations of different blood components can directly or indirectly influence the hemostatic balance and cause a prothrombotic state. It has been described as a major factor in the pathogenesis of some severe obstetric pathologies, e.g. deep venous thrombosis, pre-eclampsia and intrauterine growth retardation, as well as **pregnancy failure**.

Two polymorphisms, coagulation factor XIII (FXIII) Val34Leu and plasminogen activator inhibitor 1 (PAI-1) 4G/5G, interfere with fibrin cross-linking and regulation of fibrinolysis and may therefore contribute to early pregnancy loss. PAI-1 gene presents an insertion/deletion polymorphism (SNP) of a single G (4G/5G) at position -675 from the starting site of the gene, in a regulatory region at the 5` end (promoter). 26% of the population has 4G/4G genotype, 50% is heterozygous (4G/5G) and 24% has 5G/5G genotype.

PAI-1 MutID Kit (Qualitative Mutation Analysis Real-time PCR Kit) is an *in-vitro* nucleic acid amplification test for the qualitative detection of PAI-1 4G/5G genotype in human clinical samples. The assay is based on Real time PCR with Taqman probe chemistry. The 5G/4G and Internal Control are detected in the FAM and Yellow channel respectively. The Internal control is designed to efficiently control DNA extraction process and inhibition during the PCR amplification.

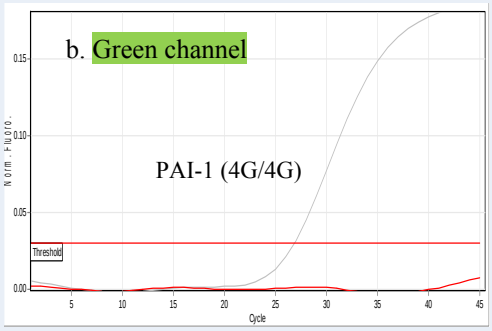
Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	PAI-1 (4G/5G polymorphism)
Specimen Required	DNA from EDTA Whole Blood
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated DNA.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification



Components

- 24 ready to use Mutant qPCR tubes
- 24 ready to use Normal qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)



Amplification signal and Ct values of 4G/4G sample tested by PAI-1 MutID Kit.

Order

Cat. No.	**Description** (24 samples)
K2032	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X (two sets)
K2032L	Lyophilized version including 24 ready to use lyophilized qPCR mix (two sets)

Thrombophilia MutID™ Kit

Real-time PCR – ARMS Taqman Probe Technology

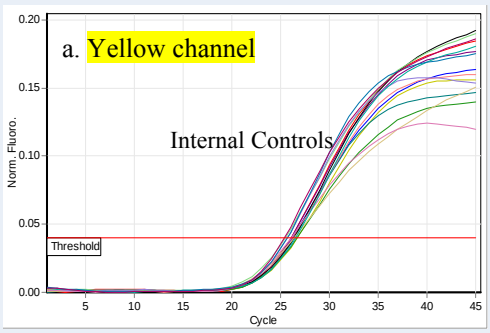
Thrombophilia or hypercoagulability is an inherited or acquired susceptibility to thrombosis (blood clots) due to abnormal coagulability of the clotting system. This panel provides analysis of a combination of acquired and inherited thrombophilia risk factors that have been shown to be associated with recurrent loss and other poor obstetric outcomes. Thrombophilia is defined as a predisposition for thrombosis which can arise from genetic factors, acquired changes in the clotting mechanism, or, more commonly, an interaction between genetic and acquired factors. Thrombophilia MutID Kit (Qualitative Mutation Analysis Real-time PCR Kit) is an *in-vitro* nucleic acid amplification test for the qualitative detection of following mutations in human clinical samples, simultaneously.

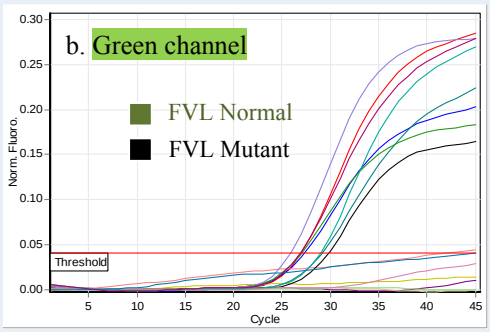
FII G20210A, FVL 1691G>A, FXIII V34L, FVHR2 (FVH1299R), MTHFR C677T, MTHFR A1298T and PAI1 4G/5G

The kit contains all the reagents necessary for qualitative mutations analysis. The assay is based on Real time PCR with Taqman probe chemistry. The mutation and Internal Control are detected in the FAM and Yellow channel respectively. The Internal control is designed to efficiently control DNA extraction process and inhibition during the PCR amplification.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	FII G20210A, FVL 1691G>A, FXIII V34L, FVHR2 (FVH1299R), MTHFR C677T & A1298T, PAI1 4G/5G
Specimen Required	DNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated DNA.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification





Amplification signal and Ct values of Heterozygote FVL sample tested by Thrombophilia MutID Kit.

Components

- Mutant qPCR Mixes (7 different vials)
- Normal qPCR Mixes (7 different vials)
- Positive Control Mix
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, MSDS…)

Order

Cat. No.	Description (12 samples)
K2033	2X version , 12 samples
K2033L	Lyophilized version , 12 samples (containing Lyophilized qPCR Mixes)

Tamoxifen MutID™ Kit

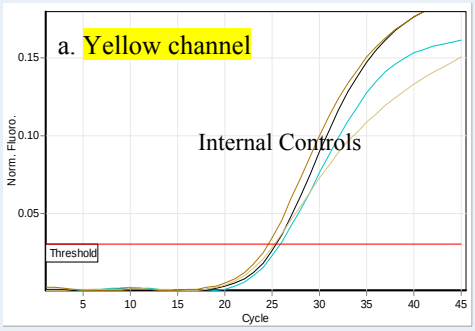
Real-time PCR – ARMS Taqman Probe Technology

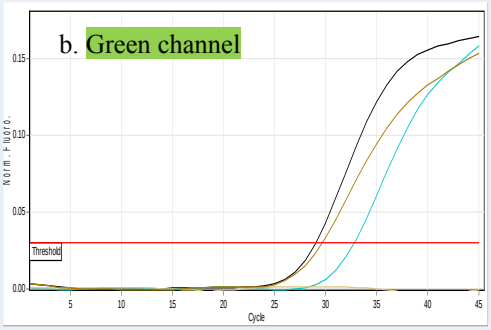
The risk of developing a venous thromboembolism (VTE) is related to a number of acquired and inherited risk factors. These include use of exogenous estrogens or estrogen agonists (eg, hormone replacement therapy, oral contraceptives, tamoxifen), pregnancy, obesity, and inherited mutations in genes predisposing to these events.

Tamoxifen is an anti-estrogen used in the treatment and prevention of breast neoplasms particularly those with estrogen receptor positive breast cancer. However, the use of tamoxifen as a preventive agent may be limited by the increased risk of side effects. A new report from the **Breast Cancer Prevention Project** (BCPT) addresses whether FV Leiden (1691G>A) and F II (G20210A) as two common thrombophilic mutations predisposed tamoxifen recipients to VTE. Therefore In the adjuvant setting, it may be prudent to test for FVL and FII (prothrombin) G2010A mutations before starting treatment with tamoxifen. The kit contains all the reagents necessary for qualitative mutations analysis. The assay is based on Real time PCR with Taqman probe chemistry. The mutation and Internal Control are detected in the FAM and Yellow channel respectively. The Internal control is designed to efficiently control DNA extraction process and inhibition during the PCR amplification.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	FV Leiden (1691G>A), F II (G20210A)
Specimen Required	DNA from EDTA Whole Blood
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification





Amplification signal and Ct values of FII heterozygote sample tested by Tamoxifen MutID Kit

Components

- Mutant qPCR Mixes (FV and FII)
- Normal qPCR Mixes (FV and FII)
- Positive Control Mix
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, MSDS…)

Order

Cat. No.	Description (12 samples)
K2034	2X version , 12 samples
K2034L	Lyophilized version , 12 samples (containing Lyophilized qPCR Mixes)

Pharmacogenomics Panel

BRAF V600E MutID™ Kit

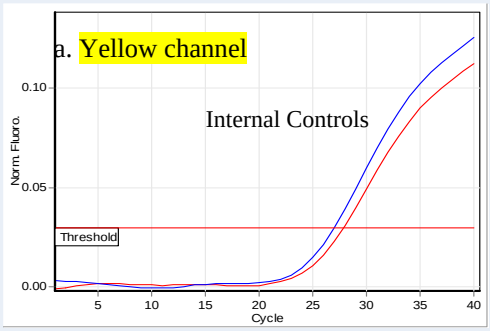
Real-time PCR – ARMS Taqman Probe Technology

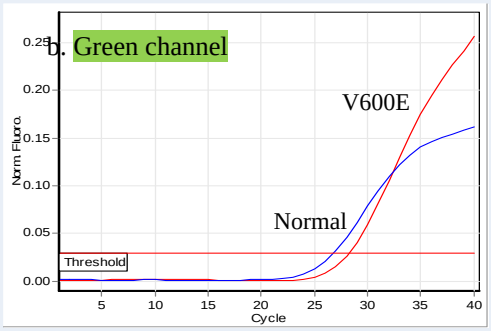
BRAF is a serine/threonine kinase that functions within the Ras-Raf-MEK-MAPK pathway. This pathway normally regulates cell proliferation and survival under the control of growth factors and hormones. Mutations in the BRAF gene have been associated with the development of cancer. The most common alteration in the BRAF gene is a mutation called V600E, which alters the valine at position 600 in the protein to a glutamic acid. The V600E mutation causes the BRAF protein to be permanently activated, even in the absence of growth factors.

BRAF MutID Kit (Qualitative Mutation Analysis Real-time PCR Kit) is an *in-vitro* nucleic acid amplification test for the qualitative detection of **V600E** mutations in human clinical samples. The kit contains all the reagents necessary for qualitative mutations analysis. The assay is based on Real time PCR with Taqman probe chemistry. The mutation and Internal Control (ABL gene) are detected in the FAM and YELLOW channel respectively.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	BRAF (V600E)
Specimen Required	DNA from EDTA Whole Blood or FFPE/FFT
Kit Storage	-20 °C
Sensitivity	Detection of 1% mutant in a background of wild-type genomic DNA is possible.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification





Amplification signal and Ct values of a BRAF V600E positive sample tested by BRAF MutID Kit.

Components

- 24 ready to use Mutant qPCR tubes
- 24 ready to use Normal qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2036	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X (two sets)
K2036L	Lyophilized version including 24 ready to use lyophilized qPCR mix (two sets)

KRAS MutID™ Kit

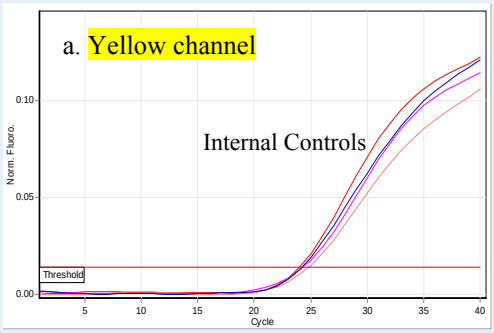
Real-time PCR – ARMS Taqman Probe Technology

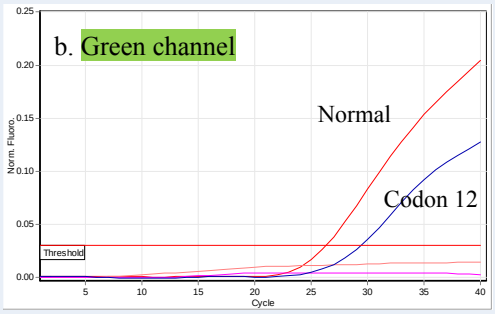
Mutated KRAS can be observed among 20 ~ 30% NSCLC patients. Majority of the mutations (80~90%) are located in codon 12, which results in constitutive activation of *Kras* protein. The presence of these mutations correlates with a lack of response to certain EGFR inhibitor cancer therapies, in Lung cancer and metastatic colorectal cancer patients. Currently, the only KRAS FDA-approved test for use with cetuximab and panitumumab is "Amplified Refractory Mutation System Polymerase Chain Reaction" (ARMS PCR) method, with reported sensitivity of approximately 1% to 5%. Using ARMS technologies, the KRAS MutID™ Kit enables detection of 13 mutations of codon 12, 13 and 61 in background of wild-type genomic DNA including:

Mix	KRAS Normal/Mutations
Normal qPCR Mix	Normal DNA
Codon 12 qPCR Mix	G12C, G12V, G12D, G12R, G12S, G12A, G12I, G12L
Codon 13 qPCR Mix	G13C, G13D
Codon 61 qPCR Mix	Q61R, Q61L, Q61H

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	13 mutations of KRAS codon 12, 13 and 61
Specimen Required	DNA from EDTA Whole Blood or FFPE/FFT
Kit Storage	-20 °C
Sensitivity	Detection of 1% mutant in a background of wild-type genomic DNA is possible.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification





Amplification signal and Ct values of a codon 12 positive sample tested by KRAS MutID Kit

Components

- KRAS Normal qPCR Mix (2X)
- Codon 12 Mutant qPCR Mix (2X)
- Codon 13 Mutant qPCR Mix (2X)
- Codon 61 Mutant qPCR Mix (2X)
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (12 samples)
K2035	2X version , 12 samples
K2035L	Lyophilized version , 12 samples (containing Lyophilized qPCR Mixes)

KRAS C12 MutID™ Kit

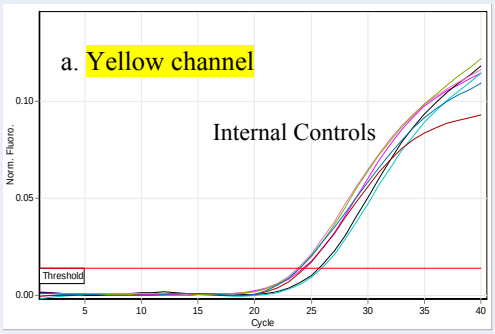
Real-time PCR – ARMS Taqman Probe Technology

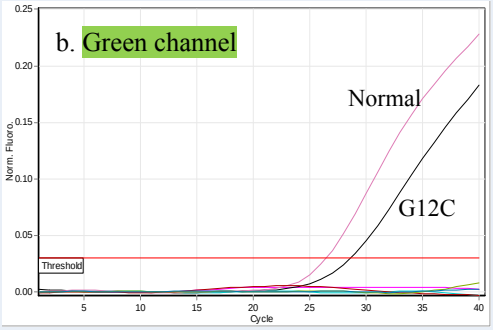
Mutated KRAS can be observed among 20 ~ 30% NSCLC patients. Majority of the mutations (80~90%) are located in codon 12, which results in constitutive activation of *Kras* protein. The presence of these mutations correlates with a lack of response to certain EGFR inhibitor cancer therapies, in Lung cancer and metastatic colorectal cancer patients. Using ARMS technologies, the KRAS C12 MutID™ Kit enables detection of 8 mutations of KRAS codon 12 in background of wild-type genomic DNA including:

Mix	KRAS Normal/Mutations
Normal qPCR Mix	Normal DNA
KRAS (G12C) qPCR Mix	c.34G>T (G12C)
KRAS (G12V) qPCR Mix	c.35G>T (G12V)
KRAS (G12D) qPCR Mix	c.35G>A (G12D)
KRAS (G12A) qPCR Mix	c.35G>C (G12A)
KRAS (G12R) qPCR Mix	c.34G>C (G12R), c.34_35 GG>CT (G12L)
KRAS (G12S) qPCR Mix	c.34G>A (G12S), c.34_35 GG>AT (G12I)

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	KRAS codon 12 (G12C, G12V, G12D, G12A, G12R, G12S, G12L, G12I)
Specimen Required	DNA from EDTA Whole Blood or FFPE/FFT
Kit Storage	-20 °C
Sensitivity	Detection of 1% mutant in a background of wild-type genomic DNA is possible.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification





Amplification signal and Ct values of a G12C positive sample tested by KRAS C12 MutID Kit

Components

- KRAS Normal qPCR Mix (2X)
- KRAS (G12C) qPCR Mix (2X)
- KRAS (G12V) qPCR Mix (2X)
- KRAS (G12D) qPCR Mix (2X)
- KRAS (G12A) qPCR Mix (2X)
- KRAS (G12R) qPCR Mix (2X)
- KRAS (G12S) qPCR Mix (2X)
- Positive Control Mix
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (12 samples)
K2046	2X version , 12 samples
K2046L	Lyophilized version , 12 samples (containing Lyophilized qPCR Mixes)

KRAS C13 MutID™ Kit

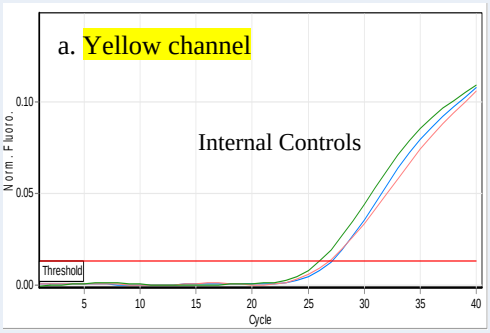
Real-time PCR – ARMS Taqman Probe Technology

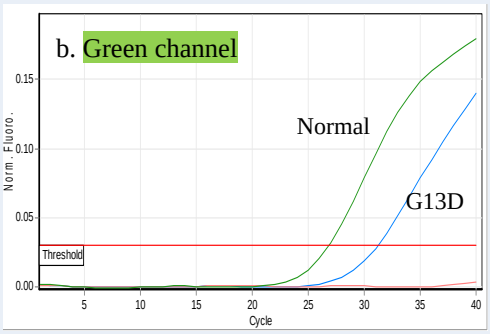
Mutated KRAS can be observed among 20 ~ 30% NSCLC patients. Majority of the mutations (80~90%) are located in codon 12, which results in constitutive activation of *Kras* protein. The presence of these mutations correlates with a lack of response to certain EGFR inhibitor cancer therapies, in Lung cancer and metastatic colorectal cancer patients. Using ARMS technologies, the KRAS C13 MutID™ Kit enables detection of 2 mutations of KRAS codon 13 in background of wild-type genomic DNA including:

Mix	KRAS Normal/Mutations
Normal qPCR Mix	Normal DNA
KRAS (G13C) qPCR Mix	c.37G>T (G13C)
KRAS (G13D) qPCR Mix	c.38G>A (G13D)

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	KRAS codon 13 (G13D and G13C)
Specimen Required	DNA from EDTA Whole Blood or FFPE/FFT
Kit Storage	-20 °C
Sensitivity	Detection of 1% mutant in a background of wild-type genomic DNA is possible.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification





Amplification signal and Ct values of a G13D positive sample tested by KRAS C13 MutID Kit

Components

- KRAS Normal qPCR Mix (2X)
- KRAS (G13D) qPCR Mix (2X)
- KRAS (G13C) qPCR Mix (2X)
- Positive Control Mix
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (12 samples)
K2047	2X version , 12 samples
K2047L	Lyophilized version , 12 samples (containing Lyophilized qPCR Mixes)

KRAS C61 MutID™ Kit

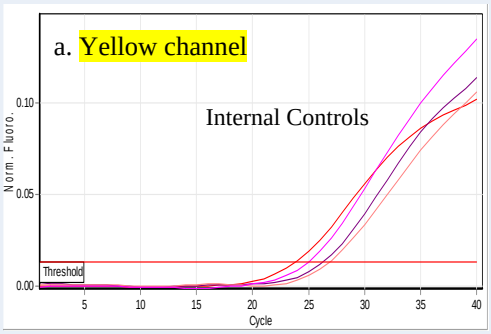
Real-time PCR – ARMS Taqman Probe Technology

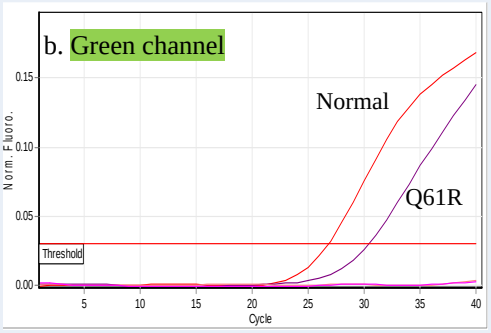
Mutated KRAS can be observed among 20 ~ 30% NSCLC patients. Majority of the mutations (80~90%) are located in codon 12, which results in constitutive activation of *Kras* protein. The presence of these mutations correlates with a lack of response to certain EGFR inhibitor cancer therapies, in Lung cancer and metastatic colorectal cancer patients. Using ARMS technologies, the KRAS C61 MutID™ Kit enables detection of 3 mutations of KRAS codon 61 in background of wild-type genomic DNA including:

Mix	KRAS Normal/Mutations
Normal qPCR Mix	Normal DNA
KRAS (Q61R) qPCR Mix	c.182A>G (Q61R)
KRAS (Q61L) qPCR Mix	c.182A>T (Q61L)
KRAS (Q61H) qPCR Mix	c.183A>T (Q61H)

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	KRAS codon 61(Q61R, Q61L and Q61H)
Specimen Required	DNA from EDTA Whole Blood or FFPE/FFT
Kit Storage	-20 °C
Sensitivity	Detection of 1% mutant in a background of wild-type genomic DNA is possible.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification





Amplification signal and Ct values of a Q61R positive sample tested by KRAS C61 MutID Kit

Components

- KRAS Normal qPCR Mix (2X)
- KRAS (Q61R) qPCR Mix (2X)
- KRAS (Q61L) qPCR Mix (2X)
- KRAS (Q61H) qPCR Mix (2X)
- Positive Control Mix
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (12 samples)
K2048	2X version , 12 samples
K2048L	Lyophilized version , 12 samples (containing Lyophilized qPCR Mixes)

NRAS MutID™ Kit

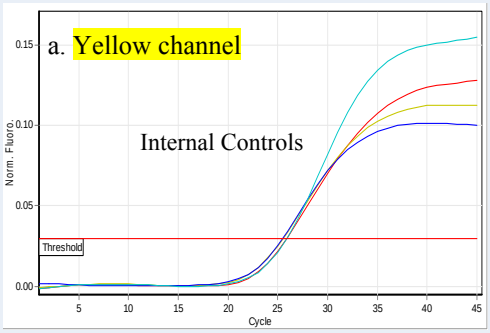
Real-time PCR – ARMS Taqman Probe Technology

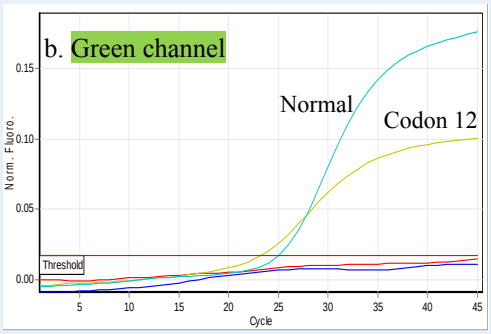
Mutations in *NRAS* account for about 15% of all *RAS* mutations in human tumors. The presence of NRAS mutations correlates with a lack of response to certain EGFR inhibitor cancer therapies such as cetuximab and panitumimab. Currently, the only KRAS FDA-approved test for use with cetuximab and panitumumab is "Amplified Refractory Mutation System Polymerase Chain Reaction" (ARMS PCR) method, with reported sensitivity of approximately 1% to 5%. These mutations appear early in carcinogenesis, mostly between the stages of early and intermediate adenoma, maintaining a constant incidence in late adenomas and in carcinomas. Using ARMS technologies, the NRAS MutID™ Kit enables detection of 12 mutations of NRAS codon 12, 13 and 61 in a background of wild-type genomic DNA including:

Mix	NRAS Normal/Mutations
Normal qPCR Mix	Normal DNA
Codon 12 qPCR Mix	G12C, G12V, G12D, G12S, G12A
Codon 13 qPCR Mix	G13R, G13D, G13V
Codon 61 qPCR Mix	Q61K, Q61R, Q61L, Q61H

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	12 mutations of NRAS codon 12, 13 and 61
Specimen Required	DNA from EDTA Whole Blood or FFPE/FFT
Kit Storage	-20 °C
Sensitivity	Detection of 1% mutant in a background of wild-type genomic DNA is possible.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification





Amplification signal and Ct values of a codon 12 positive sample tested by NRAS MutID Kit

Components

- NRAS Normal qPCR Mix (2X)
- Codon 12 Mutant qPCR Mix (2X)
- Codon 13 Mutant qPCR Mix (2X)
- Codon 61 Mutant qPCR Mix (2X)
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (12 samples)
K2037	2X version , 12 samples
K2037L	Lyophilized version , 12 samples (containing Lyophilized qPCR Mixes)

NRAS C12 MutID™ Kit

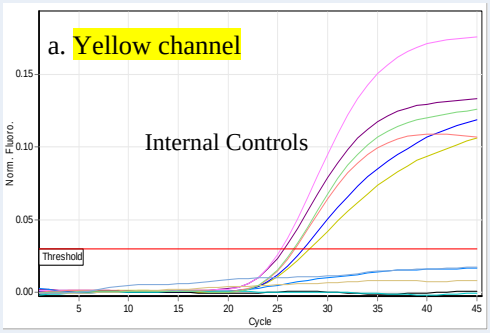
Real-time PCR – ARMS Taqman Probe Technology

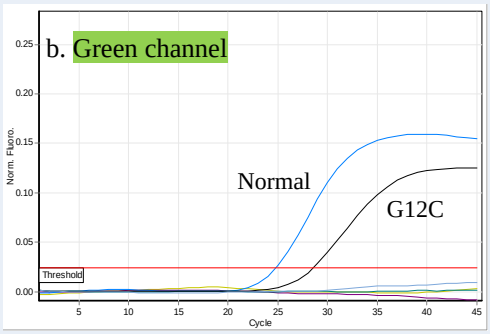
Mutations in *NRAS* account for about 15% of all *RAS* mutations in human tumors. The presence of NRAS mutations correlates with a lack of response to certain EGFR inhibitor cancer therapies such as cetuximab and panitumimab. Currently, the only KRAS FDA-approved test for use with cetuximab and panitumumab is ARMS PCR method, with reported sensitivity of approximately 1% to 5%. These mutations appear early in carcinogenesis, mostly between the stages of early and intermediate adenoma, maintaining a constant incidence in late adenomas and in carcinomas. Using ARMS technologies, the NRAS C12 MutID™ Kit enables detection of 5 mutations of NRAS codon 12 in a background of wild-type genomic DNA including:

Mix	NRAS Normal/Mutations
Normal qPCR Mix	Normal DNA
NRAS (G12C) qPCR Mix	c.34G>T (G12C)
NRAS (G12V) qPCR Mix	c.35G>T (G12V)
NRAS (G12D) qPCR Mix	c.35G>A (G12D)
NRAS (G12A) qPCR Mix	c.35G>C (G12A)
NRAS (G12S) qPCR Mix	c.34G>A (G12S)

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	NRAS codon 12 (G12C, G12V, G12D, G12A and G12S)
Specimen Required	DNA from EDTA Whole Blood or FFPE/FFT
Kit Storage	-20 °C
Sensitivity	Detection of 1% mutant in a background of wild-type genomic DNA is possible.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification





Amplification signal and Ct values of a G12C positive sample tested by NRAS C12 MutID Kit

Components

- NRAS Normal qPCR Mix (2X)
- NRAS (G12C) qPCR Mix (2X)
- NRAS (G12S) qPCR Mix (2X)
- NRAS (G12D) qPCR Mix (2X)
- NRAS (G12A) qPCR Mix (2X)
- NRAS (G12V) qPCR Mix (2X)
- Positive Control Mix
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (12 samples)
K2063	2X version , 12 samples
K2063L	Lyophilized version , 12 samples (containing Lyophilized qPCR Mixes)

NRAS C13 MutID™ Kit

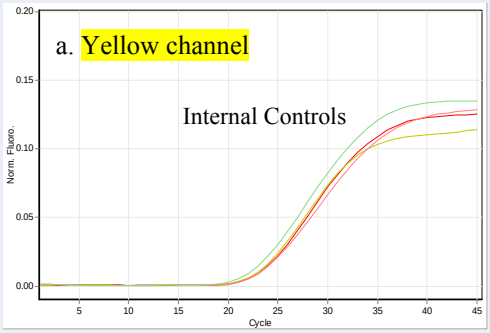
Real-time PCR – ARMS Taqman Probe Technology

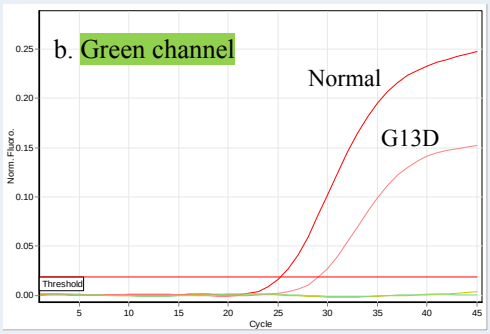
Mutations in *NRAS* account for about 15% of all *RAS* mutations in human tumors. The presence of NRAS mutations correlates with a lack of response to certain EGFR inhibitor cancer therapies such as cetuximab and panitumimab. Currently, the only KRAS FDA-approved test for use with cetuximab and panitumumab is "Amplified Refractory Mutation System Polymerase Chain Reaction" (ARMS PCR) method, with reported sensitivity of approximately 1% to 5%. These mutations appear early in carcinogenesis, mostly between the stages of early and intermediate adenoma, maintaining a constant incidence in late adenomas and in carcinomas. Using ARMS technologies, the NRAS MutID™ Kit enables detection of 3 mutations of NRAS codon 13 in a background of wild-type genomic DNA including:

Mix	NRAS Normal/Mutations
Normal qPCR Mix	Normal DNA
NRAS (G13R) qPCR Mix	c.37G>C (G13R)
NRAS (G13D) qPCR Mix	c.38G>A (G13D)
NRAS (G13V) qPCR Mix	c.38G>T (G13V)

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	NRAS codon 13 (G13R, G13V and G12D)
Specimen Required	DNA from EDTA Whole Blood or FFPE/FFT
Kit Storage	-20 °C
Sensitivity	Detection of 1% mutant in a background of wild-type genomic DNA is possible.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification





Amplification signal and Ct values of a G13D positive sample tested by NRAS C13 MutID Kit

Components

- NRAS Normal qPCR Mix (2X)
- NRAS (G13R) qPCR Mix (2X)
- NRAS (G13D) qPCR Mix (2X)
- NRAS (G13V) qPCR Mix (2X)
- Positive Control Mix
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (12 samples)
K2064	2X version , 12 samples
K2064L	Lyophilized version , 12 samples (containing Lyophilized qPCR Mixes)

NRAS C61 MutID™ Kit

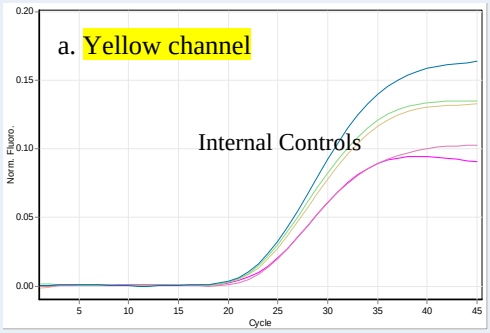
Real-time PCR – ARMS Taqman Probe Technology

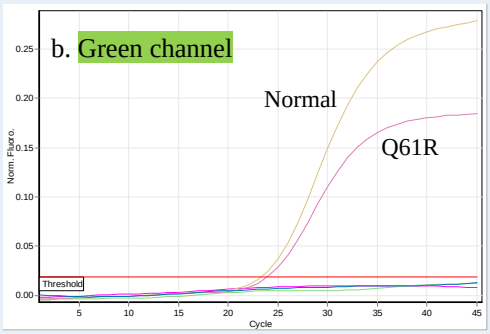
Mutations in *NRAS* account for about 15% of all *RAS* mutations in human tumors. The presence of NRAS mutations correlates with a lack of response to certain EGFR inhibitor cancer therapies such as cetuximab and panitumimab. Currently, the only KRAS FDA-approved test for use with cetuximab and panitumumab is "Amplified Refractory Mutation System Polymerase Chain Reaction" (ARMS PCR) method, with reported sensitivity of approximately 1% to 5%. These mutations appear early in carcinogenesis, mostly between the stages of early and intermediate adenoma, maintaining a constant incidence in late adenomas and in carcinomas. Using ARMS technologies, the NRAS MutID™ Kit enables detection of 4 mutations of NRAS codon 61 in a background of wild-type genomic DNA including:

Mix	NRAS Normal/Mutations
Normal qPCR Mix	Normal DNA
NRAS (Q61K) qPCR Mix	c.181C>A (Q61K)
NRAS (Q61R) qPCR Mix	c.182A>G (Q61R)
NRAS (Q61L) qPCR Mix	c.182A>T (Q61L)
NRAS (Q61H) qPCR Mix	c.183A>T (Q61H)

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	NRAS codon 61 (Q61K, Q61R, Q6L and Q61H)
Specimen Required	DNA from EDTA Whole Blood
Kit Storage	-20 °C
Sensitivity	Detection of 1% mutant in a background of wild-type genomic DNA is possible.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification





Amplification signal and Ct values of a Q61R positive sample tested by NRAS C61 MutID Kit

Components

- NRAS Normal qPCR Mix (2X)
- NRAS (Q61K) qPCR Mix (2X)
- NRAS (Q61L) qPCR Mix (2X)
- NRAS (Q61R) qPCR Mix (2X)
- NRAS (Q61H) qPCR Mix (2X)
- Positive Control Mix
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (12 samples)
K2065	2X version , 12 samples
K2065L	Lyophilized version , 12 samples (containing Lyophilized qPCR Mixes)

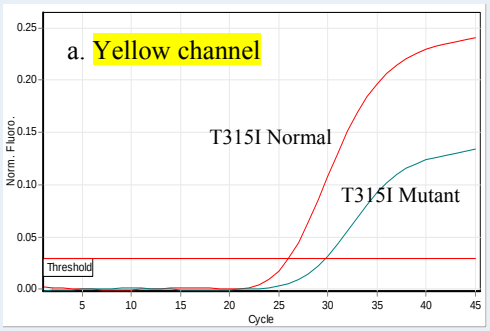
ABL T315I MutID™ Kit

Real-time PCR – ARMS Taqman Probe Technology

The T315I mutation results in a threonine (T) to an isoleucine (I) amino acid substitution at position 315 in ABL1 kinase domain. Presence of T315I point mutations in BCR-ABL1 has been implicated as a mechanism of resistance to tyrosine-kinase inhibitors (TKIs) such as imatinib. The T315I mutated CML cohort has also demonstrated reduced efficacy and increased resistance with Dasatinib, Nilotinib and Bosutinib in preclinical and clinical studies. Phase I and II trials for Dasatinib (Soverini et al. 2007), Nilotinib (Lange et al. 2012), and Bosutinib (Cortes et al. 2011; Khoury et al. 2012) demonstrate lack of efficacy and resistance in this patient population. Soverini et al. (2011) made mutation-specific treatment decision recommendations that were adopted by NCCN (2012). For T315I, the recommendation was to pursue "hematopoietic stem cell transplantation (HSCT) or clinical trial" for patients with imatinib-resistant CML. In preclinical studies, T315I-mutated cell lines demonstrated decreased sensitivity to dasatinib, nilotinib, and bosutinib compared with CML cell lines wild type for mutations (Soverini et al. 2011).The mutation is detected in the Yellow channel and Internal control is detected in the FAM channel.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	ABL1 (T315I)
Specimen Required	DNA from EDTA Whole Blood or Bone Marrow
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific, New formulation for inhibition of false amplification



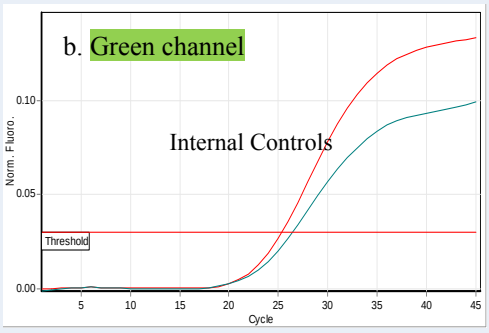


Fig. Amplification signal and Ct values of an ABL (T315I) positive sample tested by ABL T315I MutID Kit

Components

- 24 ready to use Mutant qPCR tubes
- 24 ready to use Normal qPCR tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2013	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X (two sets)
K2013L	Lyophilized version including 24 ready to use lyophilized qPCR mix (two sets)

Infectious Panel

HBV QuantiFind™ Kit

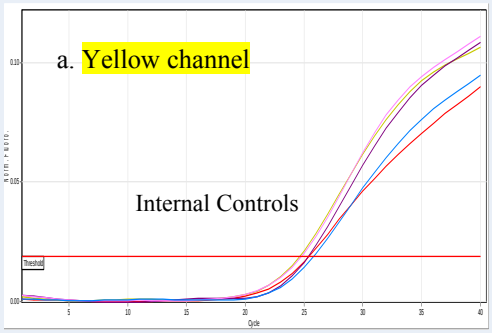
Real-time PCR – Taqman Probe Technology

Hepatitis B virus (HBV) infection is a global public health problem that concerns about 300 million people worldwide. HBV infection can be either acute or chronic (CHB); the major complications of CHB are cirrhosis and hepatocellular carcinoma (HCC). HBV DNA correlates with levels of circulating viral particles. HBV DNA levels are detectable by 30 days following infection, approximately 21 days before HBsAg typically appears in the serum. There is a linear increase in the incidence of HCC with baseline HBV DNA over 2000 IU/mL irrespective of the presence of cirrhosis. Accurate quantification of HBV DNA in serum is useful to distinguish active from inactive HBV infection and monitor a patient's response to anti-HBV therapy.

HBV QuantiFind Kit is an *in-vitro* nucleic acid amplification test for the quantitative detection of 8 different HBV genotypes (genotype A~H) in human clinical samples by multi-priming PCR method. The assay is based on Real time PCR with Taqman probe chemistry. The HBV DNA and Internal Control (DNA-IC) are detected in the FAM (Green) and JOE (Yellow) respectively. The Internal control is designed to efficiently control DNA extraction process and inhibition during the PCR amplification.

Specification

Technology	Real-time PCR/TaqMan Probe
Target	Quantification of Hepatitis B virus (HBV)
Specimen Required	DNA from serum, plasma
Kit Storage	-20 °C
Linearity	10^{10} – 30 IU/ml
Sensitivity	30 IU/ml. This sensitivity greatly depends on quality of the isolated DNA.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



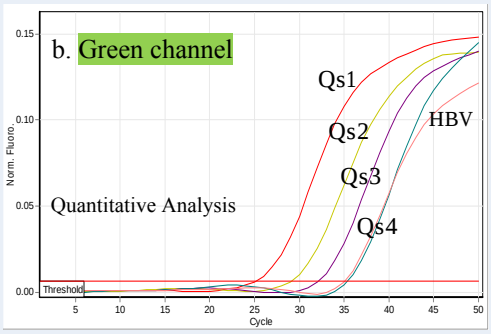


Fig. Amplification signal and Ct values of a BCR3 positive sample tested by BCR3 TransFind Kit.

Components

- HBV qPCR Mix (2X)
- Quantitation Standards, 10^7 – 10^4 IU/ml (Qs1, Qs2, Qs3 and Qs4)
- DNA-IC (DNA iInternal control)
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 reactions)
K2060	2X version, 3-9 samples
K2060L	Lyophilized version, 3-9 samples (containing Lyophilized qPCR Mix)

3 samples in duplicate in three distinct experiments
9 samples in duplicate in one experiment

HBV ViruFind™ Kit

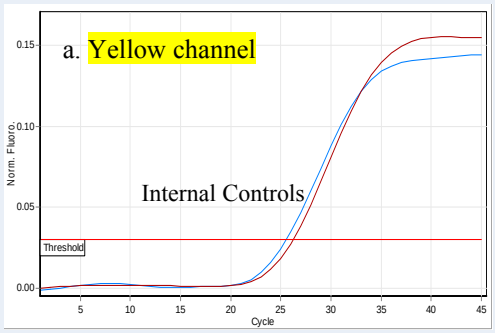
Real-time PCR – Taqman Probe Technology

The Hepatitis B virus (HBV) with a 3.2kbp long and partially double stranded DNA genome is a member of the Hepadnaviridae family. It can cause acute or chronic liver disease and in the chronic case, the liver infection may become life threatening by developing into cirrhosis or hepatocellular carcinoma (HCC). HBV is differentiated into many genotypes, according to genome sequence. To date, eight well-known genotypes (A-H) of the HBV genome have been defined. Moreover, two new genotypes, I and J, have also been identified.

HBV ViruFind Kit is an *in-vitro* nucleic acid amplification test for the qualitative detection of 8 different HBV genotypes (genotype A~H) in human clinical samples by multi-priming PCR method. The detectability of all relevant genotypes has thus been ensured by a database alignment. The assay is based on Real time PCR with Taqman probe chemistry. The HBV DNA and Internal Control (DNA-IC) are detected in the FAM (Green) and JOE (Yellow) respectively. The Internal control is designed to efficiently control DNA extraction process and inhibition during the PCR amplification.

Specification

Technology	Real-time PCR/TaqMan Probe
Target	Hepatitis B virus (HBV)
Specimen Required	DNA from serum, plasma
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated DNA.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



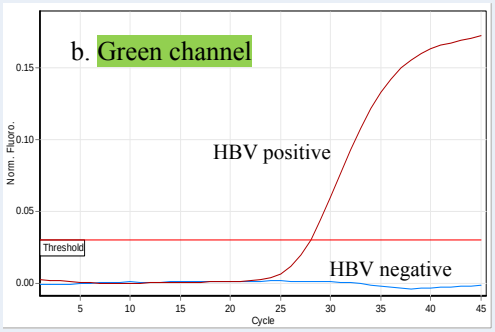


Fig. Amplification signal and Ct values of a HBV positive sample tested by HBV ViruFind Kit.

Components

- 24 ready to use HBV qPCR tubes
- DNA-IC (DNA Internal control)
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2050	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2050L	Lyophilized version including 24 ready to use lyophilized qPCR mix

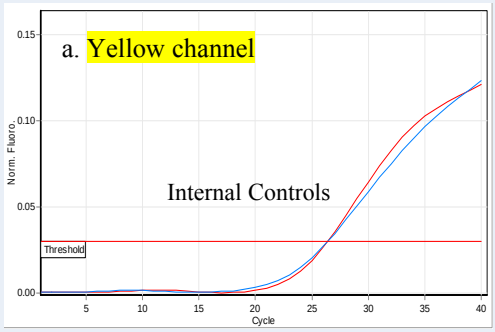
HCV ViruFind™ Kit

Real-time PCR – Taqman Probe Technology

HCV is a positive sense, single-stranded RNA virus, with a genome of 9,500 nucleotides. It has been transmitted primarily through intravenous drug use and through blood products. Worldwide, more than one million new cases of infection are reported annually, and HCV is believed to be more prevalent than hepatitis B virus infection (HBV). Hepatitis C virus has at least six forms or genotypes (Genotype 1-6). It is thought that genetic heterogeneity of HCV may account for some of the differences in disease outcome and response to treatment observed in HCV-infected persons.
HCV ViruFind Kit is an *in-vitro* nucleic acid amplification test for the qualitative detection of HCV in human clinical samples. The target sequence for the HCV assay is in the 5′*utr* region of the HCV genome. This region is specific for HCV and is highly conserved. The probe and primers are designed to hybridize to the 5′*utr* region with the fewest possible mismatches among HCV genotypes 1, 2, 3, 4, 5, and 6. The HCV target and RNA Control (RNA-IC) are detected in the FAM (Green) and JOE (Yellow) respectively. The Internal control is designed to efficiently control RNA extraction, cDNA synthesis process and inhibition during the PCR amplification.

Specification

Technology	Real-time PCR/TaqMan Probe
Target	Hepatitis C virus (HCV)
Specimen Required	RNA from serum, plasma
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



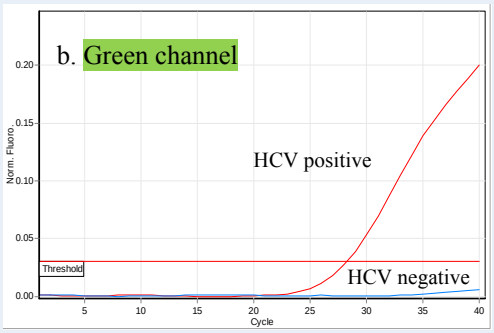


Fig. Amplification signal and Ct values of a HCV positive sample tested by HCV ViruFind Kit.

Components

- 24 ready to use HCV qPCR tubes
- RNA-IC (RNA internal control) - 10 lyophilized tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2051S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2051SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

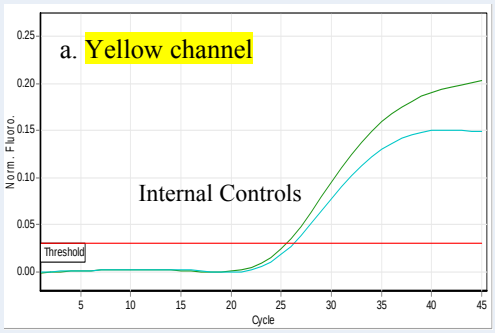
HSV1 ViruFind™ Kit

Real-time PCR – Taqman Probe Technology

Herpes simplex viruses (HSV), a member of Herpesviridae, are complex (containing ~ 35 virion proteins) DNA viruses, 180-250 nm in size, with genomes up to 235kbp DNA. Infection with the herpes simplex virus, commonly known as herpes. Herpes can appear in various parts of the body, most commonly on the genitals or mouth. There are two types of the herpes simplex virus. Herpes type 1 (HSV-1, or oral herpes) and Herpes type 2 (HSV-2, or genital herpes). Most commonly, HSV-1 causes sores around the mouth and lips (sometimes called fever blisters or cold sores). HSV-1 can cause genital herpes, but most cases of genital herpes are caused by Herpes type 2. HSV-1 is a highly contagious infection, which is common and endemic throughout the world. Most HSV-1 infections are acquired during childhood, and infection is lifelong. The vast majority of HSV-1 infections are oral herpes (infections in or around the mouth, sometimes called orolabial, oral-labial or oral-facial herpes), but a proportion of HSV-1 infections are genital herpes.
HSV-1 ViruFind Kit is an *in-vitro* nucleic acid amplification test for the qualitative detection of Herpes simplex viruses type 1 (HSV-1). The assay is based on Real time PCR with Taqman probe chemistry. The HSV-1 and Internal Control (DNA-IC) are detected in the FAM (Green) and JOE (Yellow) respectively. The Internal control is designed to efficiently control DNA extraction process and inhibition during the PCR amplification.

Specification

Technology	Real-time PCR/TaqMan Probe
Target	Herpes simplex viruses type 1 (HSV1)
Specimen Required	DNA from CSF, swab specimens include skin, lip, oral, genital …
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated DNA.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



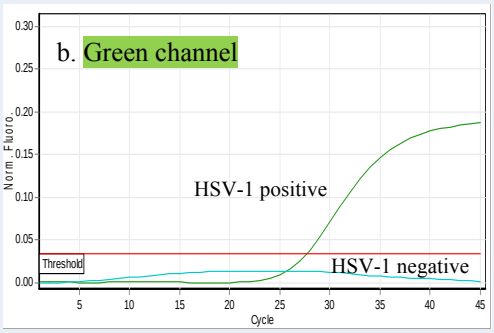


Fig. Amplification signal and Ct values of a HSV-1 positive sample tested by HSV1 ViruFind Kit.

Components

- 24 ready to use HSV-1 qPCR tubes
- DNA-IC (DNA iInternal control)
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2061	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2061L	Lyophilized version including 24 ready to use lyophilized qPCR mix

HSV2 ViruFind™ Kit

Real-time PCR – Taqman Probe Technology

Herpes simplex viruses (HSV), a member of Herpesviridae, are complex (containing ~ 35 virion proteins) DNA viruses, 180-250 nm in size, with genomes up to 235kbp DNA. Infection with the herpes simplex virus, commonly known as herpes. Herpes can appear in various parts of the body, most commonly on the genitals or mouth. There are two types of the herpes simplex virus. Herpes type 1 (HSV-1, or oral herpes) and Herpes type 2 (HSV-2, or genital herpes). HSV-2 infection is widespread throughout the world and is almost exclusively sexually transmitted, causing genital herpes. HSV-2 is the main cause of genital herpes, which can also be caused by herpes simplex virus type 1 (HSV-1). Infection with HSV-2 is lifelong and incurable. Prevalence of HSV-2 infection was estimated to be highest in Africa (31.5%), followed by the Americas (14.4%). It was also shown to increase with age, though the highest numbers of people newly-infected were adolescents.

HSV-2 ViruFind Kit is an *in-vitro* nucleic acid amplification test for the qualitative detection of Herpes simplex viruses type 1 (HSV-2). The assay is based on Real time PCR with Taqman probe chemistry. The HSV-2 and Internal Control (DNA-IC) are detected in the FAM (Green) and JOE (Yellow) respectively. The Internal control is designed to efficiently control DNA extraction process and inhibition during the PCR amplification.

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Specification

Technology	Real-time PCR/TaqMan Probe
Target	Herpes simplex viruses type 2 (HSV2)
Specimen Required	DNA from CSF, swab specimens include skin, lip, oral, genital …
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated DNA.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific

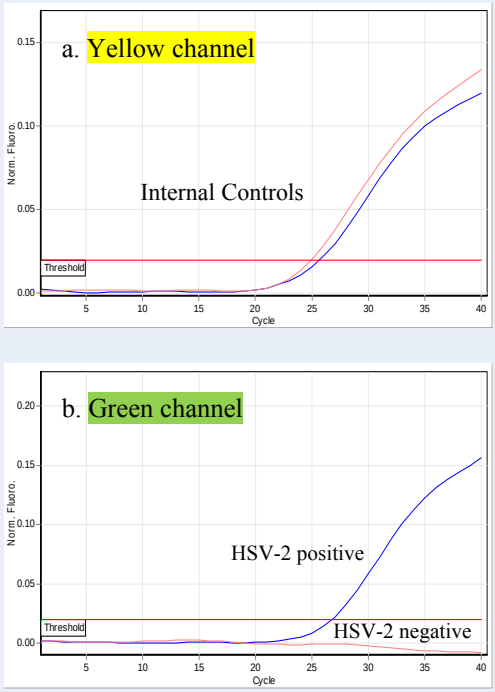


Fig. Amplification signal and Ct values of a HSV-2 positive sample tested by HSV2 ViruFind Kit.

Components

- 24 ready to use HSV-2 qPCR tubes
- DNA-IC (DNA iInternal control)
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2062	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2062L	Lyophilized version including 24 ready to use lyophilized qPCR mix

HSV1/2 ViruFind™ Kit

Real-time PCR – Taqman Probe Technology

Herpes simplex viruses (HSV), a member of Herpesviridae, are complex (containing ~ 35 virion proteins) DNA viruses, 180-250 nm in size, with genomes up to 235kbp DNA. Infection with the herpes simplex virus, commonly known as herpes. HSV is an infection that causes herpes. Herpes can appear in various parts of the body, most commonly on the genitals or mouth. There are two types of the herpes simplex virus. Herpes type 1 (HSV-1, or oral herpes) and Herpes type 2 (HSV-2, or genital herpes). Most commonly, HSV-1 causes sores around the mouth and lips (sometimes called fever blisters or cold sores). HSV-1 can cause genital herpes, but most cases of genital herpes are caused by Herpes type 2. HSV-1 is a highly contagious infection, which is common and endemic throughout the world. Most HSV-1 infections are acquired during childhood, and infection is lifelong. HSV-2 infection is widespread throughout the world and is almost exclusively sexually transmitted, causing genital herpes. Infection with HSV-2 is lifelong and incurable.
HSV1/2 ViruFind Kit is an *in-vitro* nucleic acid amplification test for the qualitative detection of Herpes simplex viruses type 1 and type 2 (HSV-1 and HSV-2) in two separate tubes. The assay is based on Real time PCR with Taqman probe chemistry. The HSV target and Internal Control (DNA-IC) are detected in the FAM (Green) and JOE (Yellow) respectively. The Internal control is designed to efficiently control DNA extraction process and inhibition during the PCR amplification.

Specification

Technology	Real-time PCR/TaqMan Probe
Gene Target	Herpes simplex viruses type 1 and type 2 (HSV1 and HSV2)
Specimen Required	DNA from CSF, swab specimens include skin, lip, oral, genital …
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated DNA.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific

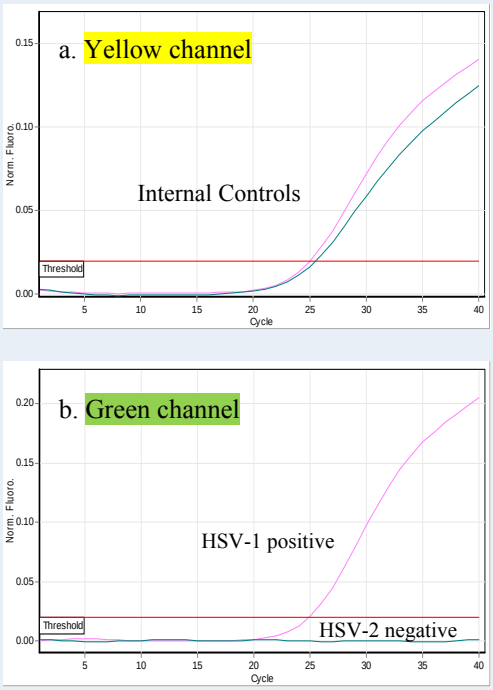


Fig. Amplification signal and Ct values of a HSV-1 positive sample tested by HSV1/2 ViruFind Kit.

Components

- 24 ready to use HSV-1 qPCR tubes
- 24 ready to use HSV-2 qPCR tubes
- DNA-IC (DNA iInternal control)
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2052	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2052L	Lyophilized version including 24 ready to use lyophilized qPCR mix

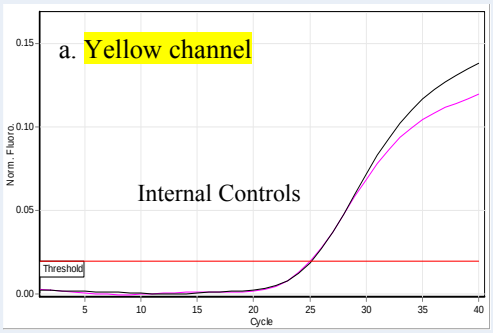
CMV ViruFind™ Kit

Real-time PCR – Taqman Probe Technology

The human Cytomegalovirus (CMV) is a member of the family *Herpesviridae* and belongs to the subfamily *betaherpesvirinae*. It consists an icosahedral capsid with a linear double-stranded DNA genome of approximately 230 kbp, a surrounding integument and an outer envelope. CMV has a worldwide distribution and infects humans of all ages, with no seasonal or epidemic patterns of transmission. It is characterized by a primary infection that generally occurs in a sub-clinical fashion in early childhood, with subsequent lifelong latent infection. However, CMV infection is important to certain highrisk groups. Major areas of concern are: (1) the risk of infection to the unborn baby during pregnancy (2) the risk of infection to people who work with children (3) the risk of infection to the immunocompromised person, such as organ transplant recipients and persons infected with human immunodeficiency virus (HIV). (4) the risk of infection to newborn babies. Therefore, early diagnosis of CMV infections is important in the management of high-risk patients.
CMV ViruFind Kit is an *in-vitro* nucleic acid amplification test for the qualitative detection of CMV in human clinical samples. The test is based on real-time PCR technology with Taqman probe chemistry, utilizing polymerase chain reaction (PCR) for the amplification of specific target sequences. The CMV target and Internal Control (DNA-IC) are detected in the FAM (Green) and JOE (Yellow) respectively. The Internal control is designed to efficiently control DNA extraction process and inhibition during the PCR amplification.

Specification

Technology	Real-time PCR/TaqMan Probe
Target	Cytomegalovirus (CMV)
Specimen Required	DNA from serum, plasma
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated DNA.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



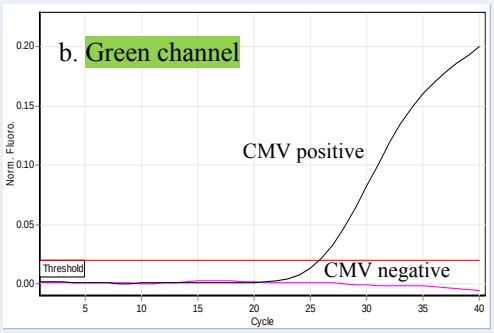


Fig. Amplification signal and Ct values of a CMV positive sample tested by CMV TransFind Kit.

Components

- 24 ready to use CMV qPCR tubes
- DNA-IC (DNA iInternal control)
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2053	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2053L	Lyophilized version including 24 ready to use lyophilized qPCR mix

INF A ViruFind™ Kit

Real-time PCR – Taqman Probe Technology

Influenza, commonly known as the "**flu**" is highly contagious and usually spread by the coughs and sneezes of a person who is infected. Infection usually lasts for about a week. It is characterized by sudden onset of high fever, aching muscles, headache and severe malaise, non-productive cough, sore throat and rhinitis. Influenza viruses belong to the *Orthomyxoviridae* that are RNA family and are divided into types A, B and C. Influenza types A and B are responsible for epidemics of respiratory illness that are often associated with increased rates of hospitalization and death. Influenza type C is a milder infection that does not cause epidemics, and does not therefore have the severe public health impact of influenza types A and B. antigenic drift and reassortment. Influenza type A viruses are categorized into subtypes based on the type of two proteins on the surface of the viral envelope including:

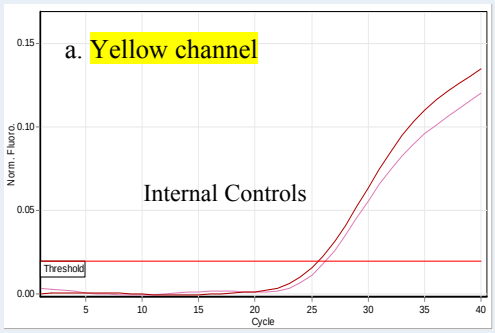
H = hemagglutinin, a protein that causes red blood cells to agglutinate.

N = neuraminidase, an enzyme that cleaves the glycosidic bonds of the monosaccharide, neuraminic acid

INF A ViruFind Kit is an *in-vitro* nucleic acid amplification test for the qualitative detection of influenza type A in human clinical samples. The assay is based on Real time PCR with Taqman probe chemistry. The Influenza A and RNA-IC (Internal Control) are detected in the FAM (Green) and JOE (Yellow) channel respectively. The Internal control is designed to efficiently control RNA extraction, cDNA Synthesis process and inhibition during the PCR amplification.

Specification

Technology	Real-time PCR/TaqMan Probe
Target	Influenza type A (INF A)
Specimen Required	RNA from Sputum, throat and nasal swabs
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



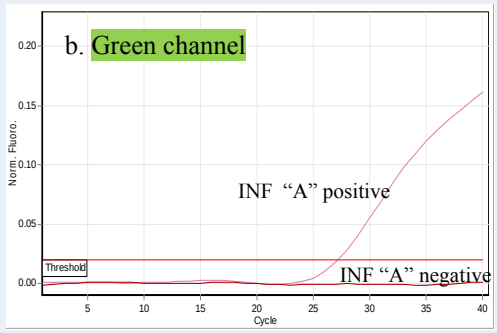


Fig. Amplification signal and Ct values of an Influenza A positive sample tested by INF A ViruFind Kit.

Components

- 24 ready to use INFA qPCR tubes
- RNA-IC (RNA internal control) - 10 lyophilized tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2057S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2057SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

INF A/B ViruFind™ Kit

Real-time PCR – Taqman Probe Technology

Influenza, commonly known as the "flu" is highly contagious and usually spread by the coughs and sneezes of a person who is infected. Infection usually lasts for about a week. It is characterized by sudden onset of high fever, aching muscles, headache and severe malaise, non-productive cough, sore throat and rhinitis. Influenza viruses belong to the *Orthomyxoviridae* that are RNA family and are divided into types A, B and C. Influenza types A and B are responsible for epidemics of respiratory illness that are often associated with increased rates of hospitalization and death. Influenza type C is a milder infection that does not cause epidemics, and does not therefore have the severe public health impact of influenza types A and B. antigenic drift and reassortment. Influenza type A viruses are categorized into subtypes based on the type of two proteins (hemagglutinin and neuraminidase) on the surface of the viral envelope. Influenza B viruses are only known to infect humans and seals, giving them influenza.

INF A/B ViruFind Kit is an *in-vitro* nucleic acid amplification test for the qualitative detection of influenza type A and type B in human clinical samples. The assay is based on Real time PCR with Taqman probe chemistry. The Influenza A, Influenza B and RNA-IC (Internal Control) are detected in the FAM (Green), JOE (Yellow) and Cy5 (Red) channel respectively. The Internal control is designed to efficiently control RNA extraction, cDNA Synthesis process and inhibition during the PCR amplification.

Specification

Technology	Real-time PCR/TaqMan Probe
Target	Influenza type A and Type B (INF A and INF B)
Specimen Required	RNA from Sputum, throat and nasal swabs
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 3 or more channels in the wavelengths corresponding to the FAM, Cy5 and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific

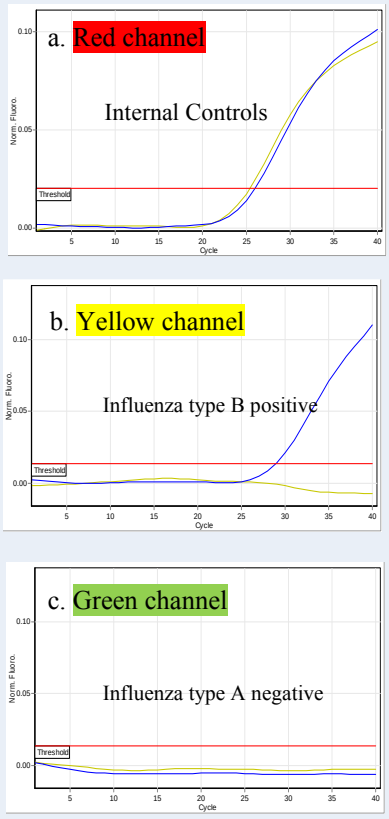


Fig. Amplification signal and Ct values of an Influenza B positive sample tested by INF A/B ViruFind Kit.

Components

- 24 ready to use INFA/B qPCR tubes
- RNA-IC (RNA internal control) - 10 lyophilized tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2055S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2055SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

INF H1N1 ViruFind™ Kit

Real-time PCR – Taqman Probe Technology

Influenza, commonly known as the "flu" is highly contagious and usually spread by the coughs and sneezes of a person who is infected. Infection usually lasts for about a week. It is characterized by sudden onset of high fever, aching muscles, headache and severe malaise, non-productive cough, sore throat and rhinitis. Influenza viruses belong to the *Orthomyxoviridae* that are RNA family and are divided into types A, B and C. Influenza type A viruses are categorized into subtypes based on the type of two proteins (hemagglutinin and neuraminidase) on the surface of the viral envelope. Different influenza viruses encode for different hemagglutinin and neuraminidase proteins. Influenza H1N1 virus designates an influenza A subtype that has a type 1 hemagglutinin (H) protein and a type 1 neuraminidase (N) protein. Influenza H1N1 virus is the subtype of influenza A virus that was the most common cause of human influenza (flu) in 2009, and is associated with the 1918 outbreak known as the Spanish Flu.

INF H1N1 ViruFind Kit is an *in-vitro* nucleic acid amplification test for the qualitative detection of influenza H1N1 in human clinical samples. The assay is based on Real time PCR with Taqman probe chemistry. The Influenza H1N1 and RNA-IC (Internal Control) are detected in the FAM (Green) and JOE (Yellow) channel respectively. The Internal control is designed to efficiently control RNA extraction, cDNA Synthesis process and inhibition during the PCR amplification.

Specification

Technology	Real-time PCR/TaqMan Probe
Target	Influenza H1N1 (INF H1N1)
Specimen Required	RNA from Sputum, throat and nasal swabs
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific

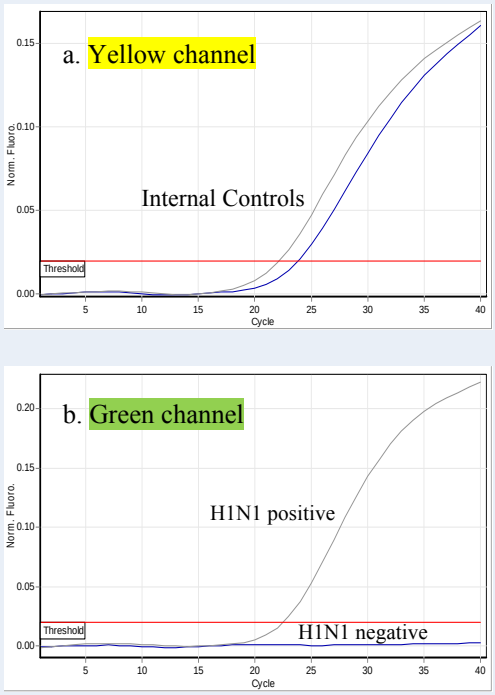


Fig. Amplification signal and Ct values of an Influenza H1N1 positive sample tested by INF H1N1 ViruFind Kit.

Components

- 24 ready to use H1N1qPCR tubes
- RNA-IC (RNA internal control) - 10 lyophilized tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2058S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2058SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

INF H1N1/H3N2 ViruFind™ Kit

Real-time PCR – Taqman Probe Technology

Influenza, commonly known as the "flu" is highly contagious and usually spread by the coughs and sneezes of a person who is infected. Infection usually lasts for about a week. Influenza viruses belong to the *Orthomyxoviridae* that are RNA family and are divided into types A, B and C. Influenza type A viruses are categorized into subtypes based on the type of two proteins (hemagglutinin and neuraminidase) on the surface of the viral envelope. Different influenza viruses encode for different hemagglutinin and neuraminidase proteins. Influenza H3N2 virus designates an influenza A subtype that has a type 3 hemagglutinin (H) protein and a type 2 neuraminidase (N) protein. Influenza H1N1 virus is the subtype of influenza A virus that was the most common cause of human influenza (flu) in 2009, and is associated with the 1918 outbreak known as the Spanish Flu. Influenza H3N2 can infect birds and mammals. In birds, humans, and pigs, the virus has mutated into many strains. H3N2 is increasingly abundant in seasonal influenza, which kills an estimated 36,000 people in the United States each year.

INF H1N1/H3N2 ViruFind Kit is a test for the qualitative detection of influenza H1N1 and H3N2 in human clinical samples. The assay is based on Real time PCR with Taqman probe chemistry. The H1N1, H3N2 and RNA-IC (Internal Control) are detected in the FAM (Green), JOE (Yellow) and Cy5 (Red) channel respectively. The Internal control is designed to efficiently control RNA extraction, cDNA Synthesis process and inhibition during the PCR amplification.

Specification

Technology	Real-time PCR/TaqMan Probe
Target	Influenza H1N1 and H3N2
Specimen Required	RNA from Sputum, throat and nasal swabs
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 3 or more channels in the wavelengths corresponding to the FAM, Cy5 and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific

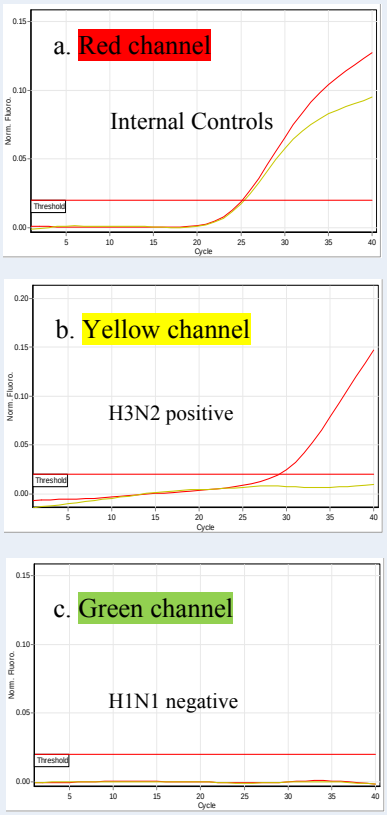


Fig. Amplification signal and Ct values of an H3N2 positive sample tested by INF /H1N1H3N2 ViruFind Kit.

Components

- 24 ready to use H1N1/H3N2 qPCR tubes
- RNA-IC (RNA internal control) - 10 lyophilized tubes
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2056S	One step qPCR including 24 ready to use tubes contain 25 µl of qPCR mix 2X without RT Enzyme
K2056SL	One step qPCR including 24 ready to use lyophilized qPCR mix with RT Enzyme

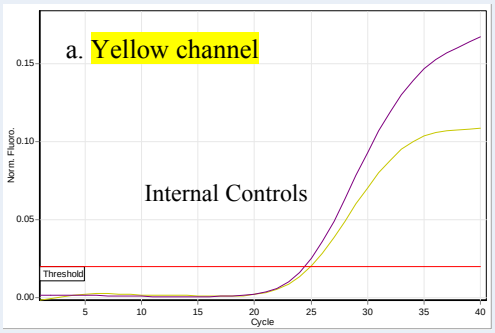
MTB BactoFind™ Kit

Real-time PCR – Taqman Probe Technology

Tuberculosis (TB) is primarily a disease of the lungs caused by the bacterium *Mycobacterium tuberculosis* (MTB). It is a very old disease. Tuberculosis is a contagious disease. It is a chronic, cyclic disease, mainly affecting the lung and the associated lymph nodes. Like the common cold, it spreads through the air. Only people who are sick with TB in their lungs are infectious. When infectious people cough, sneeze, talk or spit, they propel TB germs into the air. A person needs only to inhale a small number of these to be infected. Overall, one third of the world's population is currently infected with the TB bacillus. Of the people who are infected with TB bacilli, 5-10% becomes sick or infectious at some time during their life.
MTB BactoFind Kit is an *in-vitro* nucleic acid amplification test for the qualitative detection of Mycobacterium Tuberculosis in human clinical samples. The assay is based on Real time PCR with Taqman probe chemistry. The MTB qPCR Mix contains a primer pair and a dual labeled target detection probe that is used to amplify a genus-specific region of the chromosome and specificity for the *M. tuberculosis* complex . The MTB target and Internal Control (DNA-IC) are detected in the FAM (Green) and JOE (Yellow) respectively. The Internal control is designed to efficiently control DNA extraction process and inhibition during the PCR amplification.

Specification

Technology	Real-time PCR/TaqMan Probe
Target	Mycobacterium Tuberculosis (MTB)
Specimen Required	DNA from sputum, BAL, bronchial secretion, CSF, stomach fluid or peritoneal punction
Kit Storage	-20 °C
Sensitivity	10 copies/µl. This sensitivity greatly depends on quality of the isolated RNA and cDNA synthesis.
Supported Real-time Devices	Most common Real-time PCR devices with 2 or more channels in the wavelengths corresponding to the FAM and JOE or HEX fluorophores.
Overview	Simple setup and interpretation, Highly sensitive and specific



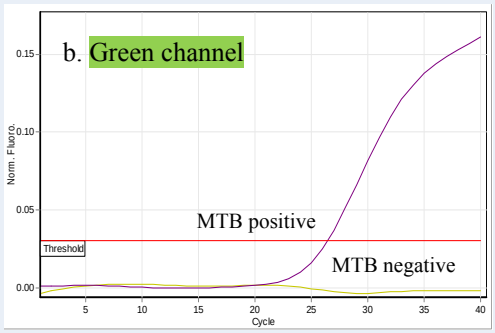


Fig. Amplification signal and Ct values of a MTB positive sample tested by MTB BactoFind Kit.

Components

- 24 ready to use MTB qPCR tubes
- DNA-IC (DNA iInternal control)
- Positive Control
- Water Nuclease free
- Quick Protocol
- mini CD (contains Instruction Manual, Certificate, and MSDS…)

Order

Cat. No.	**Description** (24 samples)
K2054	2X version including 24 ready to use tubes contain 10 µl of qPCR mix 2X
K2054L	Lyophilized version including 24 ready to use lyophilized qPCR mix

Molecular Biology Products

RBC Lysis Buffer

Red Blood Lysis Buffer (25 reactions)

Cat. No.	Content
PR1001	RBC Lysis (10X)

Rnall Buffer

Total RNA extraction Specific for WBC cells (White Blood Cell) (25 reactions)

Cat. No.	Content
PR1002	Rnall Buffer, RBC Lysis (10X)

cDNA Synthesis Kit

cDNA Synthesis Kit specific for WBC cells (White Blood Cell) (24 reactions)

Cat. No.	Content
PR1003	RT Enzyme (Reverse Transcriptase), RT Buffer (dNTP and Random hexamer included)
PR1003L	24 lyophilized ready to use tubes (RT Enz, Buffer, dNTP and Random hexamer included)

DNA Extraction Buffer

DNA Extraction specific for WBC cells (White Blood Cell) (25 reactions)

Cat. No.	Content
PR1004	DNA Extraction Buffer, , RBC Lysis (10X)

RNA Stabilizer Reagent

RNA Preservation and Stabilization buffer specific for tissue samples (25 reactions)

Cat. No.	Content
PR1005	RNA Stabilizer Reagent

Ana Probe qPCR Mix (2X)

Real-time Probe qPCR Mix (2X) without ROX reference dye (100 reactions)

Cat. No.	Content
PR1006	Reverse Transcriptase Enzyme, Reverse Transcriptase Buffer

Ana Probe MutID Mix (ARMS Taqman Probe Technology) (2X)

Real-time Probe qPCR Mix (2X) without ROX reference dye specific for mutation detection (100 reactions)

Cat. No.	Content
PR1007	Reverse Transcriptase Enzyme, Reverse Transcriptase Buffer

Ana UNG

Uracil-DNA Glycosylase specific for DNA contamination prevention

Cat. No.	Content
PR1008	Uracil DNA Glycosylase - 100U (5U/µl)

Ana Gene Biotech an Innovative Company

MutID Technology

RNA Control

ANAlysis 1.1

Lyophilized ready to use tubes

Lyophilized One Step qPCR Mix

RNA Stabilizer

Innovative Company

Ana Gene Biotech

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Genomics Specialist