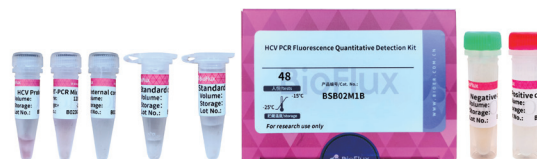




HCV RT-PCR Fluorescence Quantitative Detection Kit

Product Introduction

Hepatitis C is a viral infection that causes liver inflammation, sometimes leading to serious liver damage. The hepatitis C virus (HCV) spreads through contaminated blood. Globally, HCV exists in several distinct forms, known as genotypes. Seven distinct HCV genotypes and more than 67 subtypes have been identified. The most common HCV genotype in the United States is type 1. Quantitative determination of HCV-RNA can evaluate the viral load and replication activity in patients. It is currently the "gold standard" for evaluating HCV replication. It is a laboratory detection index to help diagnose recessive HCV infection and recessive chronic hepatitis C. effective indicator of development. Nucleic Acid Amplification Test (NAT) is sensitive to low levels of HCV virus in the body, and can detect low-load viruses, understand the number of viruses in the body, replication level, infectivity, drug treatment effects, formulate treatment strategies, etc., and use them as evaluation indicators , is also the only laboratory detection indicator that can help diagnose occult HCV infection and occult chronic HCV.



Specification

Parameters	Description
Sample Type	Serum, Plasma
Genotype	1-6, 6 Genotypes
Limit of Detection	25 IU /mL
Limit of Quantitation	50 IU/mL
Linear Range	50 IU /mL~1×10 ⁸ IU /mL
Precision	The intra-assay and inter-assay coefficients of variation (CV%) were less than 5%
Specificity	No cross-reaction with human immunodeficiency virus, hepatitis B virus, herpes simplex virus type 1, herpes simplex virus type 2, influenza A virus, Staphylococcus aureus, Epstein-Barr virus, dengue virus, Candida albicans and other pathogens
Compatible Platform	Bioer LineGene, QuantGene Real-Time PCR System
Detection Time	60 min
Storage Condition	-20 ± 5°C Keep away from light

Principle

HCV RNA is reverse transcribed, and a specific fragment is amplified with specific primers in a one-step RT-PCR reaction. The products are detected by using a specific Taqman-MGB Probes. This Taqman-MGB Probes is labeled at the 5'-end with FAM report dye, and the 3-end by NFO (Non-Fluorescent Quencher) -MGB

Characteristics

- ★ **Sample Type:** Serum, Plasma
- ★ **High Accuracy:** Effectively quantitatively the content of hepatitis C virus in the sample, and the result meets expectations.
- ★ **Good Specificity:** No cross-reaction with human immunodeficiency virus, hepatitis B virus, herpes simplex virus type 1, herpes simplex virus type 2, influenza A virus, Staphylococcus aureus, Epstein-Barr virus, dengue virus, Candida albicans and other pathogens.
- ★ **Real-time Monitoring:** The introduction of exogenous internal standards is used to monitor the entire extraction and PCR detection process.

Application case

Case 1

The kit was used to detect hepatitis C virus and a standard curve was drawn. The correlation coefficient of the target gene Ct value was above 0.995, indicating that the kit has a good linear relationship and high PCR efficiency. The result is shown in the figure below:

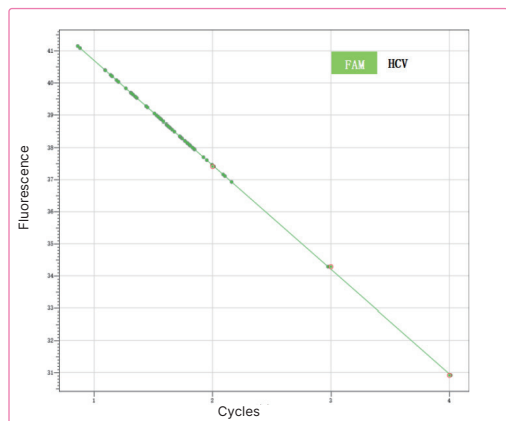


Figure 1 Standard curve of hepatitis C virus quantitative detection kit

❖ **Results:** The results showed that the nucleic acid of SARS-CoV-2, Respiratory Syncytial Virus, Influenza A Virus, Influenza B Virus could be accurately detected. The positive coincidence rate is 100%, and the negative coincidence rate is 100%.

Case 2

The kit is used to detect hepatitis C virus of known samples, and the logarithmic deviation between the quantitative value and the theoretical value is ≤ 0.5 , which shows that the kit has a high determination accuracy. The result is shown in the figure below:

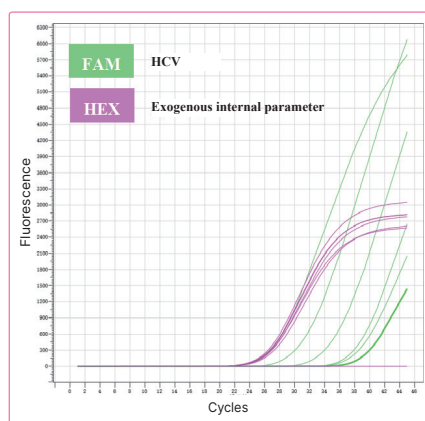


Figure 2 qPCR amplification curve of the hepatitis B virus quantitative detection kit

Sample	Theoretical Concentration IU/mL	Measurement concentration IU/mL	Logarithmic Deviation
S1	100000	9.40e+04	0.03
S2	10000	1.13e+04	0.05
S3	1000	9.40e+02	0.03
S4	100	8.19e+01	0.09
S5	50	5.18e+01	0.02
S6	25	2.09e+01	0.08
NTC	\	\	\

❖ **Results:** The results show that the inter-assay and intra-assay precision variation coefficients of the three batches were all less than 5%, and the reagent precision is great.

Case 3

The low-concentration hepatitis C virus nucleic acid sample was repeatedly tested with this kit, the coefficient of variation of the Ct value was less than 2%, and the coefficient of variation of the logarithmic value of the quantitative concentration was less than 5%, indicating that the kit has good reproducibility. The test results are stable and reliable, and the test results are as follows:

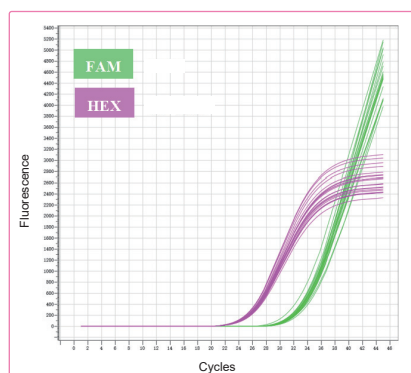


Figure 3 Repeatability verification of hepatitis C nucleic acid samples

	Target CT Value	Concentration IU/mL	Logarithmic value
1	34.70	1.26E+03	3.10
2	34.56	1.39E+03	3.14
3	34.12	1.88E+03	3.27
4	34.18	1.80E+03	3.26
5	34.65	1.31E+03	3.12
6	33.94	2.13E+03	3.33
7	33.16	3.61E+03	3.56
8	34.25	1.72E+03	3.24
9	34.50	1.45E+03	3.16
10	34.30	1.66E+03	3.22

	Target CT Value	Concentration IU/mL	Logarithmic value
11	34.58	1.37E+03	3.14
12	33.86	2.25E+03	3.35
13	34.43	1.52E+03	3.18
14	34.91	1.10E+03	3.04
15	34.24	1.73E+03	3.24
16	34.57	1.38E+03	3.14
17	35.12	9.49E+02	2.98
18	34.42	1.53E+03	3.18
19	34.32	1.63E+03	3.21
20	33.98	2.07E+03	3.32
CV%	1.23%	\	3.89%

Ordering Information

Cat.No	Product Name	Package
BSB02M1F	HCV RT-PCR Fluorescence Quantitative Detection Kit	48T



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