



Product Profile

HIV, HCV, HBV, MTB & WNV Gene Detection

Infectious Disease Genemer™ and Genemer™ Detection Kits

For research use only.

Not for use in diagnostic procedures for clinical purposes.

Introduction

Gene Link's infectious disease Genemer™ and Genemer™ detection kits use the Polymerase Chain Reaction (PCR) to amplify a specific gene fragment DNA or the cDNA of RNA viruses. Amplification of RNA virus template is based on reverse transcriptase PCR (RT-PCR). This method is highly sensitive and is capable of detecting minute copies of template.

Gene Link recommends the Genemer™ Detection Kit for researchers who have not established their own optimized amplification conditions. Amplified fragments are resolved by convenient agarose gel electrophoresis and ethidium bromide staining for qualitative analysis. Quantitative systems are also available from Gene Link. It is to be emphasized that accurate vial load can only be determined by the quantitative system.

Detection systems offered by Gene Link are for research use only and should not be used for clinical diagnosis.

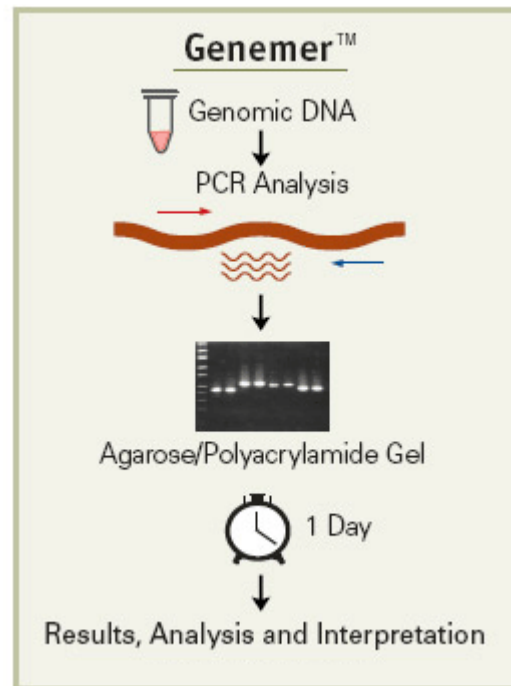
Detection Methods

Qualitative Detection System

This system detects the presence or absence of the specific target DNA or RNA template. It is highly sensitive and gives a positive or negative result. In someone who has never been exposed to the specific pathogen a negative result would occur. On occasion, a positive result is obtained in individuals who have overcome an infection and are clinically asymptomatic. This possibly indicates that minute quantities of pathogen are sometimes present.

Quantitative Detective System

Quantitative PCR (QPCR) also termed as Real Time PCR determines the quantity of pathogen template in the sample. This system requires the use of fluorescent probe and a real time fluorescent detection system, A specialized PCR system is employed that measures the quantity of amplification at each cycle of the process. The relative amplification per cycle is directly related to the initial amount of DNA or RNA template. This system provides an indication of the number of copies of the pathogen present. This result is used to determine what is known as "viral load" or the number of copies present.



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Genemer™

These are optimized primer pairs for PCR amplification of the gene fragment of interest. Specialized amplification conditions may be required for certain amplifications.

Amplification of target fragment DNA requires optimization using varying amounts of the template based on its abundance. Generally less than 10 ng of template is sufficient for a successful amplification. It is a good strategy initially to amplify multiple amounts for optimization. Use known positive control DNA as one sample.

The product contains 10 nmols lyophilized Genemer™ pair. The quantity supplied is sufficient for 800 regular 25 µl PCR reaction. Common pathogen Genemers™ are available. Please refer to our web site for a complete listing.

Genemer™ Mix

The Genemer™ Mix product is specifically formulated to include an internal negative control primer pair and template. The amplification of an internal control negative fragment even in the absence of the positive template assures the fidelity of the amplification system. For instance, the Genemer™ Mix will amplify an internal control fragment in a 'blank' sample. Please see gel photograph for details.

This Genemer™ Mix is convenient for investigators who have developed their own amplification system and require an integrated and optimized system that includes an internal negative control in each sample.

The product contains specific Genemer™ pair, primer pair for negative internal control and template for negative control amplification. The quantity supplied is sufficient for 200 regular 20 µl PCR reaction. Common pathogen Genemers™ Mix are available. Please refer to our web site for a complete listing.

Genemer™ Detection Kit

The Genemer™ Detection Kit is a complete ready-to-use system for qualitative and reliable genotyping of a gene fragment. Simply add the sample template and Taq polymerase and initiate the amplification profile. A 20 µl amplification volume is recommended. These kits contain specialized and optimized conditions that are required for amplification of the particular gene fragment. The pathogen Genemer™ kit contains a negative internal control primer pair that should amplify in samples with no pathogen DNA to signify fidelity of the amplification reaction. A positive control template is also included.

The Genemer™ Kit contains the following:

1. PCR mixture sufficient for 50 or 100 amplifications, depending on kit size ordered. This component contains dNTP, optimized buffers and appropriate Genemer™. Negative internal control is integrated in the system.
2. Positive control template for 5 or 10 amplification reactions, depending on kit size ordered.

Taq polymerase and sample preparation reagents are not included.

Genemer™ Control DNA

Control DNA's are available for most Gene Link gene detection systems. These are cloned fragments of specific DNA fragments to be used with the specific Genemer™.

The control DNA are solely to be used in establishing the performance of specific Genemer™ and not to be used for comparison with samples of unknown genotypes. The correct genotype of unknown sample can be unequivocally established by DNA sequencing.

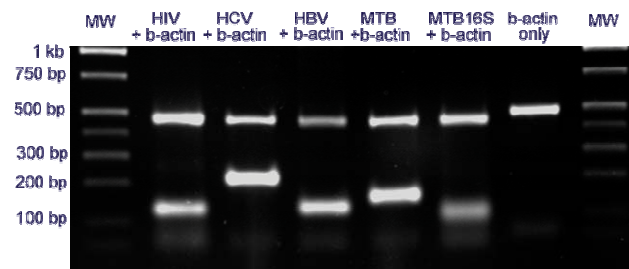
Visit www.genelink.com for a complete listing of Genemer™ Control DNA.

Qualitative Detection System

The Genemer™ kit detects the presence or absence of the specific target DNA or DNA template. It is highly sensitive and gives a positive or negative result. In someone who has never been exposed to the specific pathogen a negative result would occur. On occasion, a positive result is obtained in individuals who have overcome an infection and are clinically asymptomatic. This indicates that minute quantities of pathogen may be present.

Pathogen Genemer™ Control DNA		
Pathogen	Catalog No.	Fragment Size*
HIV	60-2002-06	125 bp
HCV	60-2003-06	214 bp
MTB	60-2004-06	151 bp
HBV	60-2007-06	138 bp
WNV	60-2001-06	154 bp

*Fragment size obtained after PCR amplification



Various Genemer™ control DNAs were used as templates using the specific pathogen Genemer™ (specific primer pair) for PCR amplification. Beta actin Genemer™ with template was included in the reaction as an internal control to verify faithful amplification protocol. The beta actin amplification fragment is of ~500 bp and should be seen in all amplification reactions. The lower fragment represents specific amplification from the pathogen Genemer™ control DNA.

A detailed manual is included with all Gene Link gene detection system products.

Visit www.genelink.com for product manuals and detailed listing.



Ordering Information

Genemer™: Primer pair for specific amplification of a gene fragment. Special optimized conditions may be required for certain amplifications.

Catalog No.	Product	Size*	Price \$
60-2001-10	West Nile Virus (WNV) Genemer™	10 nmols	100.00
60-2002-10	Human Immunodeficiency Virus-1 (HIV-1) Genemer™	10 nmols	100.00
60-2003-10	Hepatitis C Virus (HCV) Genemer™	10 nmols	100.00
60-2004-10	Mycobacterium tuberculosis (MTB) Genemer™	10 nmols	100.00
60-2007-10	Hepatitis B Virus (HBV) Genemer™	10 nmols	100.00

*The quantity supplied is sufficient for 800 regular 25 µl PCR reaction

*Please visit www.genelink.com for other Genemer™ not listed here

Genemer™ Amplification Kit: Complete easy-to-use kit for reliable genotyping of a gene fragment. Includes a specific primer pair for gene or mutation specific amplification, optimized buffers and dNTPs and in most cases, control DNA.

Catalog No.	Product	Size	Price \$
60-2001-11	West Nile Virus (WNV) Genemer™ Kit; 100 detections	1 Kit	250.00
60-2001-11S	West Nile Virus (WNV) Genemer™ Kit; 50 detections	1 Kit	150.00
60-2002-11	Human Immunodeficiency Virus-1 (HIV-1) Genemer™ Kit; 100	1 Kit	250.00
60-2002-11S	Human Immunodeficiency Virus-1 (HIV-1) Genemer™ Kit; 50 detections	1 Kit	150.00
60-2003-11	Hepatitis C Virus (HCV) Genemer™ Kit; 100 detections	1 Kit	250.00
60-2003-11S	Hepatitis C Virus (HCV) Genemer™ Kit; 50 detections	1 Kit	150.00
60-2004-11	Mycobacterium tuberculosis (MTB) Genemer™ Kit; 100 detections	1 Kit	250.00
60-2004-11S	Mycobacterium tuberculosis (MTB) Genemer™ Kit; 50 detections	1 Kit	150.00
60-2007-11	Hepatitis B Virus (HBV) Genemer™ Kit; 100 detections	1 Kit	250.00
60-2007-11S	Hepatitis B Virus (HBV) Genemer™ Kit; 50 detections	1 Kit	150.00

*20 µl PCR reaction volume

*Please visit www.genelink.com for other Genemer™ Control DNA not listed here

Genemer™ Mix: Primer pair for specific amplification of a gene fragment. Includes internal negative control primer pair and template. Special optimized conditions may be required for certain amplifications.

Catalog No.	Product	Size*	Price \$
60-2001-12	West Nile Virus (WNV) Genemer™ Mix	200 reactions	100.00
60-2002-12	Human Immunodeficiency Virus-1 (HIV-1) Genemer™ Mix	200 reactions	100.00
60-2003-12	Hepatitis C Virus (HCV) Genemer™ Mix	200 reactions	100.00
60-2004-12	Mycobacterium tuberculosis (MTB) Genemer™ Mix	200 reactions	100.00
60-2007-12	Hepatitis B Virus (HBV) Genemer™ Mix	200 reactions	100.00

*20 µl PCR reaction volume

*Please visit www.genelink.com for other Genemer™ not listed here

Genemer™ Control DNA: Cloned fragment of a particular gene for use with gene or mutation specific Genemer™ products. They are ideal genotyping templates for optimizing and performing control amplification with unknown DNA.

Catalog No.	Product	Size	Price \$
60-2001-06	West Nile Virus (WNV) Genemer™ Control DNA	500 ng	175.00
60-2002-06	Human Immunodeficiency Virus-1 (HIV-1) Genemer™ Control DNA	500 ng	175.00
60-2003-06	Hepatitis C Virus (HCV) Genemer™ Control DNA	500 ng	175.00
60-2004-06	Mycobacterium tuberculosis (MTB) Genemer™ Control DNA	500 ng	175.00
60-2007-06	Hepatitis B Virus (HBV) Genemer™ Control DNA	500 ng	175.00

*Please visit www.genelink.com for other Genemer™ Kits not listed here



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Omni-Clean™ and Omni-Pure™ Purification Systems: Facile and rapid purification of DNA and RNA from varied sources can be performed using the Omni-Pure™ series of DNA, RNA and plasmid purification systems.

Catalog No.	Product	Size	Price \$
40-4010-01	Omni-Pure™ Genomic DNA Purification System	100	75.00
40-4010-05	Omni-Pure™ Genomic DNA Purification System	500	210.00
40-4010-10	Omni-Pure™ Genomic DNA Purification System	1000	350.00
40-3720-01	Omni-Pure™ Viral DNA Purification System	100	220.00
40-3720-05	Omni-Pure™ Viral DNA Purification System	500	880.00
40-3720-50	Omni-Pure™ Viral DNA Purification System	1000	1400.00
40-3700-01	Omni-Pure™ Microbial DNA Purification System	100	175.00
40-3700-05	Omni-Pure™ Microbial DNA Purification System	500	700.00
40-3700-10	Omni-Pure™ Microbial DNA Purification System	1000	1120.00
40-3650-01	Omni-Pure™ Viral RNA Purification System	100	175.00
40-3650-05	Omni-Pure™ Viral RNA Purification System	500	700.00
40-3650-10	Omni-Pure™ Viral RNA Purification System	1000	1120.00
40-4110-10	Omni-Clean™ Gel DNA Beads Purification System	100	95.00
40-4110-50	Omni-Clean™ Gel DNA Beads Purification System	500	380.00
40-4120-10	Omni-Clean™ Gel DNA Spin Column Purification System	100	110.00
40-4120-50	Omni-Clean™ Gel DNA Spin Column Purification System	500	440.00
40-4130-10	Omni-Clean™ DNA Beads Concentration System	100	95.00
40-4130-50	Omni-Clean™ DNA Beads Concentration System	500	380.00
40-4140-10	Omni-Clean™ DNA Spin Column Concentration System	100	110.00
40-4140-50	Omni-Clean™ DNA Spin Column Concentration System	500	440.00

Genetic Tools and Reagents: Gene Link offers a wide variety of other molecular biology products, such as molecular weight markers, buffers, solutions and other genetic tools and reagents for all of your research needs.

Catalog No.	Product	Size	Price \$
40-3005-01	Omni-Marker™ Universal unlabeled	100 µl	15.00
40-3005-05	Omni-Marker™ Universal unlabeled	500 µl	50.00
40-3005-10	Omni-Marker™ Universal unlabeled	1 ml	90.00
40-3006-01	Omni-Marker™ Low unlabeled	100 µl	15.00
40-3006-05	Omni-Marker™ Low unlabeled	500 µl	50.00
40-3006-10	Omni-Marker™ Low unlabeled	1 ml	90.00
40-3062-01	Omni-Marker™ GScan-2 Tamra labeled 50 bp - 600 bp	100 µl	75.00
40-3062-05	Omni-Marker™ GScan-2 Tamra labeled 50 bp - 600 bp	500 µl	325.00
40-3002-01	Loading Buffer 5X BPB/XC non-denaturing	100 µl	5.00
40-3002-10	Loading Buffer 5X BPB/XC non-denaturing	1 ml	10.00
40-3004-01	Loading Buffer 5X Orange G/XC non-denaturing	100 µl	5.00
40-3004-10	Loading Buffer 5X Orange G/XC non-denaturing	1 ml	10.00
40-5027-01	Loading Buffer 2X BPB/XC Denaturing for Sequencing	100 µl	5.00
40-5027-10	Loading Buffer 2X BPB/XC Denaturing for Sequencing	1 ml	10.00
40-5020-20	Hybwash A, Hybridization Wash Solution	200 ml	65.00
40-5021-10	Hybwash B, Hybridization Wash Solution	100 ml	50.00
40-5025-20	10x Washing buffer	200 ml	125.00
40-5026-10	10% Blocking solution	100 ml	75.00
40-5027-00	Seq. Loading buffer	1 ml	10.00
40-5031-10	10x AP Detection buffer	100 ml	65.00
40-5022-20	Lumisol™ I Hybridization Solution; contains formamide	200 ml	75.00
40-5023-20	Lumisol™ II Hybridization Solution; for non-toxic hybridizations	200 ml	75.00
40-5024-20	Lumisol™ III Hybridization Solution; for oligo probes	200 ml	75.00

The polymerase chain reaction (PCR) process is covered by patents owned by Hoffmann-La Roche. A license to perform is automatically granted by the use of authorized reagents.

Prices subject to change without notice

All Gene Link products are for research use only.



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