

2011-2012 CATALOG

# Gene Detection Systems



Gene Link™

# Quality • Consistency • Confidence

For over a decade Gene Link has been providing researchers with the finest critical genetic research tools. Consistently maintaining our reputation and responsibility to supply quality products, we present our entire line with unrivaled confidence. Our products and services are supported and ensured by our commitment to premium quality and our constant efforts to introduce innovative products and cutting-edge technology to the research community worldwide.

Gene Link fosters customer satisfaction and loyalty by stressing personal relationships with our customers. Our dedicated and expertly trained customer service and technical support staff are motivated to serve our customers in any way possible. Routinely assisting our customers in the design of their experiments and other technical inquiries, we stay committed and connected to our customers who have entrusted us with supplying the tools they need in furthering their exciting and groundbreaking research. Gene Link has developed, and will continue to preserve, a reputation for "Quality, Consistency, and Confidence."

A leading supplier of premium custom oligonucleotides, researchers turn to Gene Link for demanding applications and consistent results. Gene Link services include genotyping, sequencing and gene construction; as well as a wide variety of other molecular biology products such as, siRNA, fluorescent probes, genetic tools and reagents, and non-radioactive gene detection systems for human genetic disorders.



**GOLD STANDARD**

**Specializing in Long Oligos  
up to 250 mer**



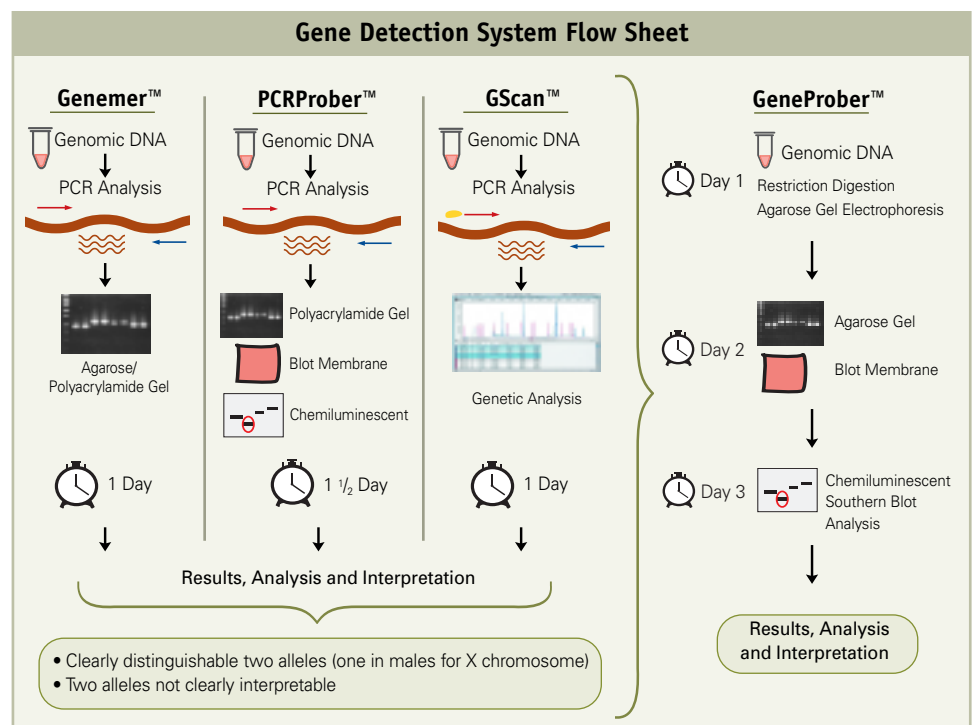
# Gene Detection Systems

Gene Link is the leader in triple repeat disorder genotyping using non-radioactive based methods. We have more than a decade of expertise and have developed facile non-radioactive detection methods for safe, sensitive and reliable genotyping of human genetic disorders. Take a look at the simple agarose and polyacrylamide gel based systems, the chemiluminescent Southern blot detection methods and the fluorescent systems for genotyping of triple repeat disorders.

The molecular basis of genetic disorders is as varied as clinical genetics itself. The molecular etiology of disorders may be fundamentally straightforward, such as in Sickle cell disease, as compared to a whole new class of diseases where anticipation is involved with apparently increasing disease severity in successive generations. Addressing the etiology and molecular diagnosis of the more complex disorders that involve anticipation (i.e., Fragile X syndrome, Myotonic dystrophy, and Huntington's disease) is often challenging.

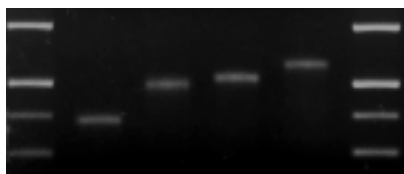
This product profile of Gene Link's current gene detection product line spotlights non-radioactive detection products as well as conventional radioactive based methods for genotyping the challenging triple repeat

disorders as well as single base mutations and various pathogens. Control DNA fragments with varying number of triple repeats, single base mutations and pathogen control DNA fragments are also available.



## Genemer™

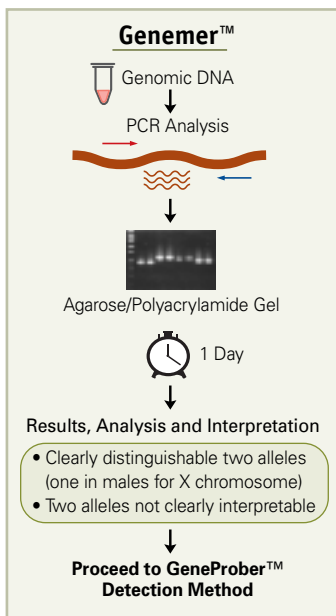
Genemer™ are optimized primer pairs for amplification of the gene fragment of interest, particularly those spanning a mutation. A wide range is available from single base pair mutation sites, the complex triple repeat disorders and various pathogens. Genemer™ kits are complete, easy-to-use systems for reliable genotyping of large repeats in certain triple repeat disorder.



Friedreich's ataxia GAA repeat genotyping was performed using FRDA Genemer™ (Catalog No. 40-2027-10) and various FRDA Genemer™ Control DNAs (Catalog No. 40-2027-XX). Optimized reagents from the FRDA Genemer™ Kit were used to amplify long repeats. Lanes 1 & 6 are molecular weight markers; lanes 2-5 are 64, 102, 110 and 125 GAA repeat amplification products.

Gene Link has developed a wide array of specific amplification primers and optimized conditions for gene fragments and specifically for the triple repeat disorders. For example, the Huntington Genemer™ kit is capable of routinely amplifying greater than 150 CAG repeats. Other detection systems available are for single base mutations and various pathogens.

The Genemer™ product contains 10 nmols of the primer pair that is sufficient for 400 regular 50 µl amplifications. The Genemer™ Kit contains reagents as well as control DNA sufficient for 100 amplifications.



## Genemer™

Product	Size	Catalog No.
Fragile X, Huntington Disease, Myotonic Dystrophy, Friedreich's Ataxia, Kennedy Disease, Sickle Cell, Rh, Sry, and other Genemer™ Kits available	1 Kit	40-20XX-11
HIV, HCV, HBV, MTB and MTB Genemer™ Kit	1 Kit	60-20XX-11
Fragile X, Huntington Disease, Myotonic Dystrophy, Friedreich's Ataxia, Kennedy Disease, Sickle Cell, Rh, Sry, and other Genemer™ primer pairs available	10 nmols	40-20XX-10

Visit [www.genelink.com](http://www.genelink.com) for complete listing of Gene Detection Systems product line.

## The Gene Link Advantage

- No More Hazardous Radioactive Exposure
- No More Decayed Probes
- Safe, Sensitive and Reliable Genotyping
- Optimized Kits for Reproducible Results
- Triple Repeat Disorder Genotyping
- Wide Array of Detection Methods
- Chemiluminescent Detection
- Fluorescent Based Genetic Analysis
- Control DNA Standards for Varying Triple Repeat Lengths
- Wide Selection of Disease Genotyping
- Knowledgeable Technical Support

**GOLD STANDARD**

## First Round Genotyping

The Genemer™ and GScan™ products are for initial screening. All samples yielding disease causing triple repeats should be confirmed by Southern blot analysis using the GeneProber™ product line to confirm genotype.

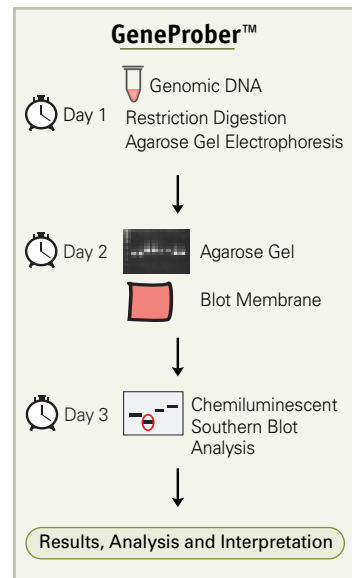
A specific gene fragment probe for Southern blot based hybridization of genomic DNA. The GeneProber™ is available unlabeled for radioactive based methods and labeled with digoxigenin for chemiluminescent detection. One tube is supplied containing 500 ng of the lyophilized unlabeled GeneProber™ probe.

The quantity supplied is sufficient for at least 5 random prime labeling reactions using 100 ng for each reaction. Gene Link recommends using 25 ng of probe for each labeling reaction. The digoxigenin labeled probe supplied is sufficient for five 20 x 20 blots.

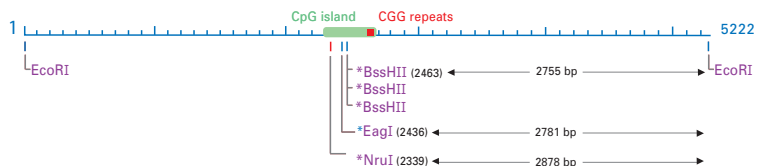
The GeneProber™ product line is based on the chemiluminescent Southern blot detection method. These probes are specially developed to detect the triple repeat amplifications. Fragile X, Huntington disease, Myotonic dystrophy, Friedreich's ataxia and Kennedy disease GeneProber™ unlabeled and digoxigenin labeled are available.

Gene Link's non-radioactive detection systems for genotyping of triple repeat disorders are rapid, reliable and as sensitive as the <sup>32</sup>P labeled southern blots. No more decayed probes and radioactive exposure.

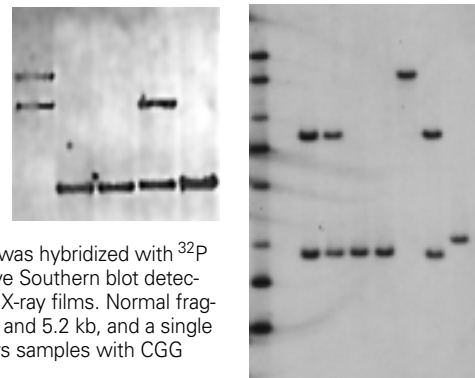
A detailed manual accompanies the product giving a step by step protocol, results and interpretation guidelines.



**Fragile X Southern Blot Analysis**



Fragile X CGG repeats genotyping results using Gene Link's GeneProber™ products. Fragile X GeneProber™ GLFXDig1 Digoxigenin-labeled Probe (Catalog No. 40-2004-41) and GeneProber™ GLFX1 Unlabeled Probe (Catalog No. 40-2004-40) were used to probe human blood genomic DNA digested with Eco RI and Eag I. Left blot was hybridized with digoxigenin labeled probe and processed for chemiluminescent detection. The blot on the right was hybridized with <sup>32</sup>P labeled GLFX1 and processed for radioactive Southern blot detection. Both blots were exposed overnight to X-ray films. Normal fragment sizes for females are between 2.8 kb and 5.2 kb, and a single fragment of 2.8 kb in males. The blot shows samples with CGG repeats in the affected range.



**GeneProber™**

Product	Size	Catalog No.
Fragile X, Huntington Disease, Myotonic Dystrophy, Friedreich's Ataxia and Kennedy Disease GeneProber™ unlabeled probe	500 ng	40-20XX-40
Fragile X, Huntington Disease, Myotonic Dystrophy, Friedreich's Ataxia and Kennedy Disease GeneProber™ digoxigenin labeled probe	110 µl	40-20XX-41

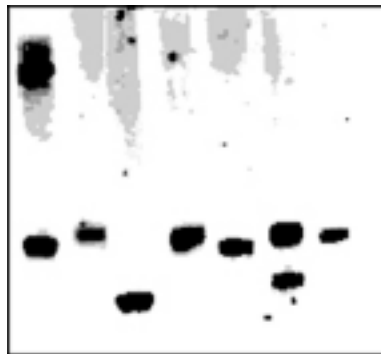
Visit [www.genelink.com](http://www.genelink.com) for complete listing of Gene Detection Systems product line.



**PCRProber™ Gene Detection Kits**

PCRProber™ alkaline phosphatase labeled probe is for amplification and non-radioactive detection of a trinucleotide repeat region amplified PCR product. The PCRProber™ Kit comprises of a primer pair for PCR amplification followed by gel blot and chemiluminescent detection using the alkaline phosphatase oligonucleotide probe. Quantity supplied is sufficient for 100 amplifications.

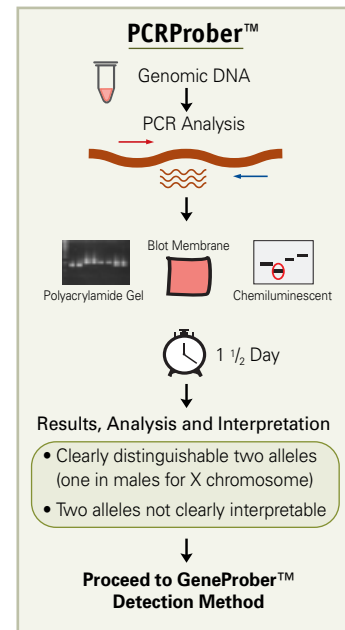
Gene Link's PCRProber™ Kit is based on PCR amplification followed by Southern blot chemiluminescent detection using an alkaline phosphatase labeled oligonucleotide probe. This kit is a safe and sensitive alternate to radioactive-based detection methods. The amplified products are resolved on a sequencing polyacrylamide gel, and then blotted and processed for chemiluminescent detection.



Fragile X CGG repeats genotyping results using Gene Link's PCRProber™. Various human genomic DNA samples were amplified using the reagents supplied in the PCRProber™ Kit (Catalog No. 40-2004-32) and processed for chemiluminescent detection following the protocol in the manual provided. Fragile X CGG repeat genotyping as an initial screening using the PCRProber™ is rapid as it amplifies CGG repeat sizes up to ~50 repeats. Lane 1 in the blot shows a female sample containing 29 and ~60 CGG repeats respectively.

The PCRProber™ Kit is simple and robust for routine triple repeat detection of greater than 100 repeats of all triple repeat disorders listed, except Fragile X. The CGG repeat in Fragile X can be detected up to ~50 repeats.

It is strongly recommended that the genotyping be followed up by using GeneProber™ Southern blot detection methods when two alleles are not clearly discernable.



**PCRProber™ Kits**

Product	Size	Catalog No.
Fragile X, Huntington Disease, Myotonic Dystrophy, Friedreich's Ataxia and Kennedy Disease PCRProber™ Kits available.	1 kit	40-20XX-32
Fragile X, Huntington Disease, Myotonic Dystrophy, Friedreich's Ataxia and Kennedy Disease PCRProber™ available.	12 µl	40-20XX-31

Visit [www.genelink.com](http://www.genelink.com) for complete listing of Gene Detection Systems product line.

## GScan™ Gene Detection Kits

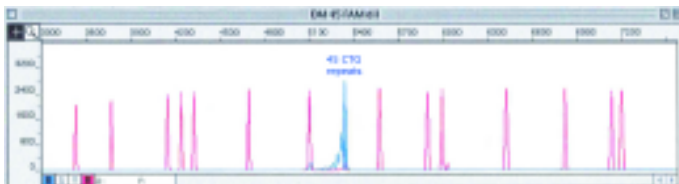
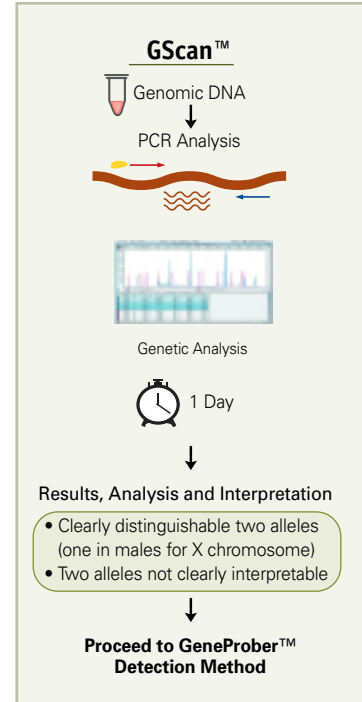
GScan™ Kits contain optimized PCR amplification reagents and a wide selection of fluorescent-labeled primers for genotyping after PCR using fluorescent genetic analyzer instrument(s). Kit includes sufficient reagents for 100 detections.

*Genotyping using this kit requires use of the appropriate fluorescent genetic analyzer instrument(s) and software capable of detection of fluorescently labeled fragments of varying lengths. These kits have been optimized for an ABI310 genetic analyzer.*

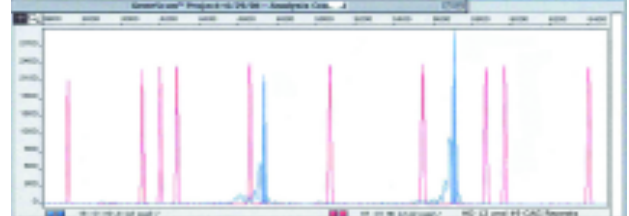
Gene Link's GScan™ gene detection kits are safe, convenient and sensitive, and afford automated compilation of data. The kits contain optimized PCR amplification reagents and a wide array of fluorescent-labeled primers for genotyping after PCR using fluorescent genetic analyzer instrument(s). Included in these kits are ready-to-run control samples of various repeats of the triple repeat disorder. These control samples are for calibration with the molecular weight markers for accurate size determination of the amplified fragments.

The GScan™ Kits are simple and robust for routine triple-repeat detection of greater than 100 repeats of all triple repeat disorders listed, except Fragile X. The CGG repeat in Fragile X can be detected up to ~50 repeats.

It is strongly recommended that the genotyping be followed up by using Southern blot detection methods when two alleles are not clearly discernable.



Above: Myotonic Dystrophy CTG genotyping  
Right: Huntington Disease CAG genotyping



### GScan™ Gene Detection Kits

Product	Size	Catalog No.
Fragile X, Huntington Disease, Myotonic Dystrophy, Friedreich's Ataxia and Kennedy Disease GScan™ Kits available.	1 Kit	40-20XX-15

Visit [www.genelink.com](http://www.genelink.com) for complete listing of Gene Detection Systems product line.

### GScan™ Dye Labeled Markers

Product	Catalog No.	Size
GScan™ Marker Tamra labeled 50 bp - 600 bp	40-3061-01	100 µl
GScan™ Marker Tamra labeled 50 bp - 600 bp	40-3061-05	500 µl
GScan™ Marker Hex labeled 50 bp - 600 bp	40-3081-01	100 µl
GScan™ Marker Hex labeled 50 bp - 600 bp	40-3081-05	500 µl

\*A loading of 0.5 µl is suggested.



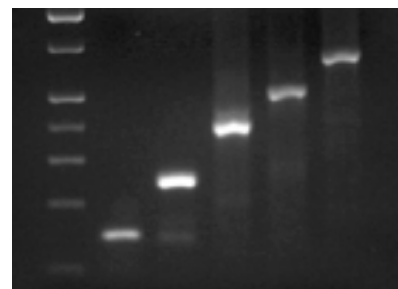
Genemer™ Control DNA are cloned fragments of a particular gene for use with gene or mutation specific Genemer™ and GScan™ products. These control DNAs are ideal genotyping templates for optimizing and performing control amplification with unknown DNA. One tube is supplied containing 500 ng of lyophilized DNA segment of the specified fragment spanning the mutation region. The quantity supplied is sufficient for 1000 regular 50 µl PCR reactions.

The control DNAs were developed to complement Gene Link's gene detection system product line. The control DNAs for a single base mutation are helpful to optimize the protocol and in setting up positive control standards.

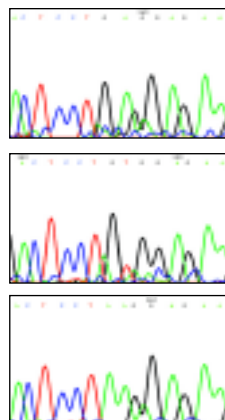
The control DNA series for various triple repeat disorders were generated by amplification. These serve as controls for the amplification of various triple repeats and to run as positive controls. The size of the triple repeats has been determined by sequencing and gel electrophoresis.

The stability of size repeats upon cloning and amplification has not been determined. Thus, the size should be considered approximate and there is no claim for each fragment to contain the exact number of triple repeats.

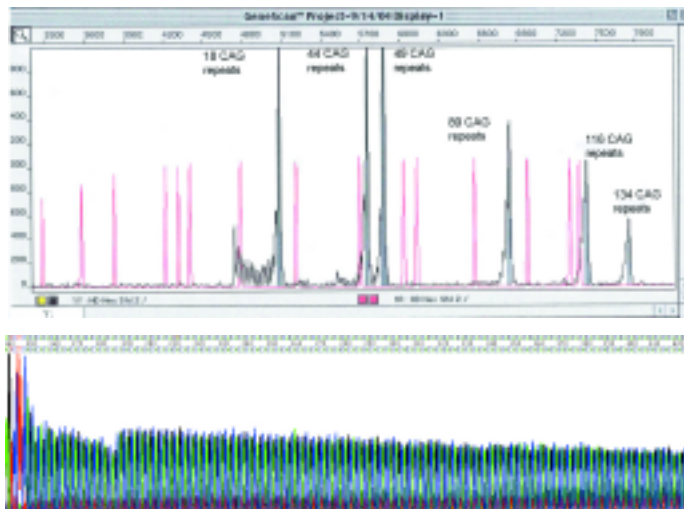
These control DNAs are sold with the expressed condition that these not be used for exact triple repeat size determination of DNA of unknown genotype. The control DNA should be used for determining the performance of specific Genemer™, GScan™ and PCRProber™ Gene Link products.



Lane M is molecular weight markers. Lanes 1-5 represent PCR products from DM genomic clones that contain 12, 45, 93, 129, and 182 CTG repeats respectively.



Sickle Cell Genemer™ control DNA for Hb-A, Hb-S and Hb-C.



Huntington's Disease Genemer™ control DNA of various CAG repeats shown here used for GScan™ analysis.

**Genemer™ Control DNA Kits**

Product	Size	Catalog No.
Fragile X, Huntington Disease, Myotonic Dystrophy, Friedreich's Ataxia and Kennedy Disease control DNA available with varying number of triple repeats. Control DNA also available for single base mutation disorders.	500 ng	40-20XX-XX
HIV, HBV, HCV, MTB, and WNV pathogen control Genemer™ DNA.	500 ng	60-20XX-06

Please visit [www.genelink.com](http://www.genelink.com) for other Genemer™ Control DNA not listed here.

# Gene Link.

## Results You Can Rely On.

### RNA Interference

#### RNAi Explorer™

RNAi Explorer™ from Gene Link is a series of products and services to aid researchers in exploring RNA interference.

- Online search and design tools for siRNA and shRNA
- Guaranteed RNAi Explorer™ kit for gene knockout



### Gene Detection Systems

Non-radioactive gene detection systems for the rapid and reliable detection of various gene segments.

#### Genemer™

Genemer™ products are available for Fragile X, Huntington's disease, Myotonic dystrophy, Friedreich's ataxia, Sickle cell, Sry, X and Y, etc. Please see our website for a complete listing.

#### GeneProber™

Rapid, non-radioactive, southern-based genotyping of triple-repeat disorders such as Fragile X, Huntington's disease, Myotonic dystrophy and Friedreich's ataxia.

#### GScan™

Convenient gene detection systems for automated fluorescent genetic analyzer instruments. GScan™ systems available for Fragile X, Huntington's disease, Myotonic dystrophy and Friedreich's ataxia.



### Oligo Synthesis

Gene Link Oligo Synthesis Division is not an "oligo factory". Order Gene Link oligos for demanding applications and consistent results. A Gel picture is supplied with each oligo.

- Long oligo synthesis, up to 250 mer; all modifications available
- Molecular Beacons, TaqMan Probes, fluorescent dye labeled oligos and probes
- Easy online ordering
- Buy one, get one at no charge on your first order



### Custom Sequencing

Premium DNA sequencing results for all levels of service.

#### CloneIDSeq

For rapid clone and PCR product identification. Accuracy greater than 97%.

#### DSSeq

Publishing quality double strand sequencing. Accuracy greater than 99%.

#### Bac/Pac/P1Seq

Read length of 300 bases guaranteed. Sequence accuracy is greater than 95%.



## A WEALTH OF INFORMATION Gene Link Web Resource

This catalog is a brief profile of our product line. We encourage you to visit our website for detailed information. There is a wealth of information always available at your desktop that is just a click away.

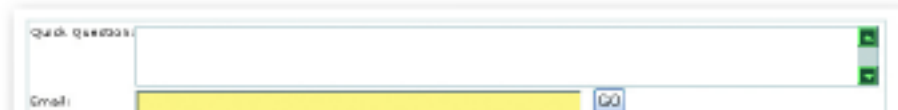
[www.genelink.com](http://www.genelink.com)

### Customer Service & Technical Support

#### Quick Question

Each page of our website contains a page sensitive "Quick Question" feature at the bottom. Type any question and your e-mail address, and receive a quick reply usually within 30 minutes.

*Ask a quick question, get a quick answer.*



A screenshot of the "Quick Question" form on the website. It features a text input field labeled "Quick Question:" with a green submit button to its right. Below this is an email input field labeled "Email:" with a blue "GO" button to its right.



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