



Certificate of Analysis & Product Manual

DMA Gene Expression Assays, Microarrays, Real Time Quantitative PCR,
TaqMan Probes, Molecular Beacons, Fluorescent Probes, FRET,
RT-PCR, NASBA, RNA ELISA

Synthetic Positive Control Templates

Catalog No.: See Material Supplied List

Storage Condition: -20°C

For Research Use Only. Not for use in diagnostic procedures for clinical purposes



Material Supplied

Storage Condition: -20°C

The synthetic positive control templates (SPCT) are single stranded oligonucleotides. SPCT are shipped dried at room temperature unless otherwise labelled. These are stable indefinitely in dry condition at room temperature. After reconstitution store at **-20°C to -80°C in several aliquots to prevent cross contamination.**

Synthetic Positive Control Templates

Content	Product	Catalog No.	Unit Size
☐	Custom SPCT (Synthetic Positive Control Template); up to 130mer, 500 pmol	26-6100-05	500 pmol
☐	Custom SPCT (Synthetic Positive Control Template); up to 130mer; 2 nmol	26-6100-02	2 nmol
☐	Custom SPCT (Synthetic Positive Control Template); 131-180mer, 500 pmol	26-6101-05	500 pmol
☐	Custom SPCT (Synthetic Positive Control Template); 131-180mer; 2 nmol	26-6101-02	2 nmol
☐	Custom SPCT (Synthetic Positive Control Template); 181-250mer, 250 pmol	26-6102-25	250 pmol
☐	Custom SPCT (Synthetic Positive Control Template); 181-250mer; 1 nmol	26-6102-01	1 nmol
☐	Custom SPCT. Refer to tube label		custom

Certificate of Analysis & Product Specifications

All synthetic positive control templates are synthesized using the solid phase DNA synthesis chemistry. Coupling data of each base is recorded and archived for quality control purposes. The SPCT are polyacrylamide gel purified and the purity is greater than 98% as judged by gel electrophoresis.

Appropriate nuclease free handling, reconstitution, dispensing and storage conditions required.

Manufacturing lot numbers are stated on the label of each product and accompanying packing slip.

Gene Link SNP Drug Metabolism Enzyme Genotyping Assay Synthetic Positive Control Templates

Gene Link provides Synthetic Positive Control Templates (SPCT) as an alternate to wild type DNA that usually is difficult to source out for different alleles. These SPCT can be used as positive control templates for all genotyping assays in addition to DME TaqMan® Assays. Gene Link specializes in long oligo synthesis up to 250mer in length. Longer templates can be constructed by ligation. Gene Link can provide custom synthetic oligo templates for all your genotyping and template requirements. We routinely provide expert technical assistance in the design of templates and ultra modified fluorescent probes with enhanced duplex stability and nuclease resistance.

Gene Link provides over 5,200 Synthetic Positive Control Templates (SPCT) to genotype over 2,600 high value polymorphisms located in regulatory elements and coding regions for 220 drug metabolism and transporter genes. These SPCT are manufactured by Gene Link for complete collection of TaqMan® Drug Metabolism Genotyping Assays (DME Assays) and other DME SNP's.

- Select individual assays for your drug metabolism studies
- Study single nucleotide polymorphisms (SNPs), multiple nucleotide polymorphisms (MNPs), and insertions/deletions (In/Dels) on one platform
- Results You Can Rely On - Gene Link manufactured premium synthetic positive control templates (SPCT)
- Easy online search & ordering using SNP rs#. [Click here](#)

Positive Controls Templates for Your Target

Gene Link now offers the collection of TaqMan® Drug Metabolism Genotyping Assays Positive Control Templates for basic and clinical research. This product provides over 5,200 templates for more than 2,600 unique assays to detect polymorphisms in 220 genes that code for various drug metabolism enzymes and drug transporters. Design yourself using our robust online design center or simply email us the SNP rs# and Gene Link will design and synthesize the appropriate SPCT.

Gene Link Easy Online Ordering & Robust Search Features

Order the SPCT using the unique rs#, Gene Accession Number or perform a simple search using any unique or partial string of SPCT ID. [Go ahead try the robust search feature and easy search, design and online ordering!](#)

SPCT DILUTION PROTOCOL

IMPORTANT NOTE

Extreme care should be observed in handling and reconstitution of SNP/DME and other SPCT to avoid cross contamination.

The recommended dilution of template is 10pM (dilution D in the table).

☐	2 nmols (lyophilized)	26-6100-02 & 26-6101-02
--------------------------	-----------------------	-------------------------

1. Spin the tube containing the SPCT briefly to bring down the SPCT.
2. Add 500 μ L TE pH 8.0 (10 mM Tris pH8.0, 1mM EDTA pH 8.0). **This is your STOCK AA (4 μ M).**
3. Make a 1:4 dilution by taking 125 μ L of stock AA and 375 μ L of TE. **This is your Dilution A (1 μ M).**
4. Follow the table below for further dilution as required.

☐	1 nmol (lyophilized)	26-6102-01
--------------------------	----------------------	------------

1. Spin the tube containing the SPCT briefly to bring down the SPCT.
2. Add 250 μ L TE pH 8.0 (10 mM Tris pH8.0, 1mM EDTA pH 8.0). **This is your STOCK AA (4 μ M).**
3. Make a 1:4 dilution by taking 125 μ L of stock AA and 375 μ L of TE. **This is your Dilution A (1 μ M).**
4. Follow the table below for further dilution as required.

☐	500 pmols (lyophilized)	26-6100-50 & 26-6101-05
--------------------------	-------------------------	-------------------------

1. Spin the tube containing the SPCT briefly to bring down the SPCT.
2. Add 500 μ L TE pH 8.0 (10 mM Tris pH8.0, 1mM EDTA pH 8.0). **This is your Dilution A (1 μ M).**
3. Follow the table below for further dilution as required.

☐	250 pmols (lyophilized)	26-6102-25
--------------------------	-------------------------	------------

1. Spin the tube containing the SPCT briefly to bring down the SPCT.
2. Add 250 μ L TE pH 8.0 (10 mM Tris pH8.0, 1mM EDTA pH 8.0). **This is your Dilution A (1 μ M).**
3. Follow the table below for further dilution as required.

☐ Custom	Refer to label on tube of individual SPCT tube
---------------------------------	--

1. Spin the tube containing the SPCT briefly to bring down the SPCT.
2. Dissolve in appropriate volume of TE pH 8.0 (10 mM Tris pH8.0, 1mM EDTA pH 8.0) to prepare a solution with a final concentration of **Dilution A (1 μ M)**.
3. Follow the table below for further dilution as required.

The recommended dilution of template is 10pM (dilution D in the table).

Further dilution can be performed if required as listed in the table.

SPCT Dilution Protocol					
	Reconstitution or Dilution	Concentration	Relative concentration	# Of copies per mL	Mass for Test 1 99mer Oligo*
A	500 pmol solid + 500µL TE	1µM	500,000 x	6.02e14	30.476 ng/µL
B	100µL A + 900µL TE	0.1µM [100 nM]	50,000 x	6.02e13	3.0476 ng/µL
C	10 µL B + 990µL TE	1nM	500 x	6.02e11	30.476 pg/µL
D	10 µL C + 990µL TE	10pM	5 x	6.02e9	0.30476 pg/µL
Perform further dilution if required					
E	100 µL D + 900µL TE	1pM	-5 x	6.02e8	0.03047 pg/µL
F	100 µL E + 900µL TE	0.1pM	-15 x	6.02e7	0.00304 pg/µL
* Test 1 99mer oligo (211647GL) MW = 30,476g/mol = 30.476 ng/pmol					

Ordering Information

Synthetic Positive Control Templates

Product	Catalog No.	Unit Size
Custom SPCT (Synthetic Positive Control Template); up to 130mer, 500 pmol	26-6100-05	500 pmol
Custom SPCT (Synthetic Positive Control Template); up to 130mer; 2 nmol	26-6100-02	2 nmol
Custom SPCT (Synthetic Positive Control Template); 131-180mer, 500 pmol	26-6101-05	500 pmol
Custom SPCT (Synthetic Positive Control Template); 131-180mer; 2 nmol	26-6101-02	2 nmol
Custom SPCT (Synthetic Positive Control Template); 181-250mer, 250 pmol	26-6102-25	250 pmol
Custom SPCT (Synthetic Positive Control Template); 181-250mer; 1 nmol	26-6102-01	1 nmol

Related Products Ordering Information

DNA & RNA Precipitation Solutions

Product	Catalog No.	Unit Size
DNA & RNA Precipitation Solutions Pack (contains the following; Glycogen Solution 10 mg/mL; 1 mL [40-5112-01]; Linear Acrylamide Solution 5mg/mL; 1 mL [40-5113-01] LiCl RNA Precipitation Solution [40-5131-05]; Sodium Acetate DNA & RNA Precipitation Solution [40-5132-05]; Sodium Chloride DNA & RNA Precipitation [40-5134-05] and Ammonium Acetate 7.5M DNA & RNA Precipitation Solution [40-5135-05])	40-5130-00	1 Pack
Glycogen Solution 10 mg/mL; 1 mL	40-5112-01	1 mL
Linear Acrylamide Solution (Linear polyacrylamide, LPA; 5mg/mL); 1 mL	40-5113-01	1 mL
LiCl RNA Precipitation Solution (7.5M LiCl, 50 mM EDTA pH 8.0); 50 mL	40-5131-05	50 mL
Sodium Acetate 3M pH 5.5; DNA & RNA Precipitation Solution; 50 mL	40-5132-05	50 mL
Potassium Acetate 3M pH 5.5; DNA & RNA Precipitation Solution; 50 mL	40-5133-05	50 mL
Sodium Chloride 5M DNA & RNA Precipitation; 50 mL	40-5134-05	50 mL
Ammonium Acetate 7.5M DNA & RNA Precipitation Solution; 50 mL	40-5135-05	50 mL
Ammonium Acetate 5 M DNA & RNA Precipitation Solution; 50 mL	40-5136-05	50 mL

Related Products Ordering Information

DNA & RNA Reconstitution Solutions

Product	Catalog No.	Unit Size
DNA & RNA Reconstitution Solutions Pack (contains 50 mL each of DEPC Treated Water [40-3000-05], Nuclease Free Water (DEPC Free) [40-3001-05], TE pH 7.0 [40-5011-05] and RNA Reconstitution Solution[40-5014-05])	40-3000-00	1 Pack
RNA Reconstitution & Storage Solution (1 mM Sodium Citrate pH 6.4); 10 X 1.6 mL	40-5014-16	10 X 1.6 mL
RNA Reconstitution & Storage Solution (1 mM Sodium Citrate pH 6.4); 50 mL	40-5014-05	50 mL
TE Buffer 1X solution pH 7.0; 50 mL	40-5011-05	50 mL
TE Buffer 1X solution pH 7.5; 50 mL	40-5012-05	50 mL
TE Buffer 1X solution pH 8.0; 50 mL	40-5013-05	50 mL
Nuclease Free Water (DEPC Free); 10 X 1.6 mL	40-3001-16	10 X 1.6 mL
Nuclease Free Water (DEPC Free); 50 mL	40-3001-05	50 mL
Nuclease Free Water (DEPC Free); 500 mL	40-3001-50	500 mL
Nuclease Free Water (DEPC Free); 1L	40-3001-01	1 L
DEPC Treated Water; 10 X 1.6 mL	40-3000-16	10 X 1.6 mL
DEPC Treated Water; 50 mL	40-3000-05	50 mL
DEPC Treated Water; 500 mL	40-3000-50	500 mL
DEPC Treated Water; 1L	40-3000-01	1 L

Related Products Ordering Information

PCR Additives & Reagents

Product	Catalog No.	Unit Size
Taq DNA Polymerase 300 units; 5 µ/µL; 60 µL	40-5200-30	300 units
PCR Buffer Standard (10 X); 1.6 mL	40-3060-16	1.6 mL
PCR Buffer Mg Free (10 X); 1.6 mL	40-3061-16	1.6 mL
Taq Polymerase Dilution Buffer; 1 mL	40-3070-10	1 mL
dNTP 2mM (10X); 1.1 mL	40-3021-11	1.1 mL
MgCl ₂ ; 25 mM; 1.6 mL	40-3022-16	1.6 mL
Omni-Marker™ Universal Unlabeled; 1 mL	40-3005-10	1 mL
Primer and Template Mix; 500 bp; 40 reactions	40-2026-60PT	100 µL
Nuclease Free Water, 10 X 1.6 mL	40-3001-16	10 X 1.6 mL
DMSO, 1 mL	40-3031-10	1 mL
TMAC (Tetramethyl ammonium chloride) 100 mM; 1 mL	40-3053-10	1 mL
KCl 300 mM; 1 mL	40-3059-10	1 mL
Betaine 5M; 1 mL	40-3032-10	1 mL

Omni-Marker™ ; Molecular Weight Size Standards for Gel Electrophoresis

Product	Catalog No.	Unit Size
Omni-Marker™ DNA 1 kb mw Universal unlabeled; 500 µL	40-3005-05	500 µL
Omni-Marker™ DNA 1 kb mw Universal unlabeled; 1 mL	40-3005-10	1 mL
Omni-Marker™ DNA 100 bp mw Low unlabeled; 500 µL	40-3006-05	500 µL
Omni-Marker™ DNA 100 bp mw Low unlabeled; 1 mL	40-3006-10	1 mL

Loading Buffers; DNA non-denaturing and denaturing buffers

Product	Catalog No.	Unit Size
Loading Buffer 5X BPB/XC non-denaturing; 1 mL	40-3002-10	1 mL
Loading Buffer 5X BPB/XC non-denaturing; 15 mL	40-3002-15	15 mL
Loading Buffer 5X Orange G/XC non-denaturing; 1 mL	40-3004-10	1 mL
Loading Buffer 5X Orange G/XC non-denaturing; 15 mL	40-3004-15	15 mL
Loading Buffer 2X BPB/XC Denaturing for Sequencing; 1 mL	40-5027-10	1 mL
Loading Buffer 2X BPB/XC Denaturing for Sequencing; 15 mL	40-5027-15	15 mL

Electrophoresis Buffers & Hybridization Reagents

Product	Catalog No.	Unit Size
Agarose LE Molecular Biology Grade; 100 g	40-3010-10	100 g
Agarose LE Molecular Biology Grade; 500 g	40-3010-50	500 g
Hybwash A, Hybridization Wash Solution; 200 mL	40-5020-20	200 mL
Hybwash B, Hybridization Wash Solution; 200 mL	40-5021-10	100 mL
TAE Buffer; 50X Concentrate; 100 mL	40-3007-01	100 mL
TAE Buffer; 50X Concentrate; 1 L	40-3007-10	1 L
TBE Buffer; 5X Concentrate; 1 L	40-3008-10	1 L
10x Washing buffer; 200 mL	40-5025-20	200 mL
10% Blocking solution; 100 mL	40-5026-10	100 mL
10x AP Detection buffer; 100 mL	40-5031-10	100 mL
Lumisol™ I Hybridization Solution; contains formamide; 200 mL	40-5022-20	200 mL
Lumisol™ II Hybridization Solution; for non-toxic hybridizations; 200 mL	40-5023-20	200 mL
Lumisol™ III Hybridization Solution; for oligo probes; 200 mL	40-5024-20	200 mL

Document Warranty and Liability

Information in this document is subject to change without notice. This document and all information presented in this document are written as a guide. Gene Link, Inc. does not warrant this document to be free of errors and assumes no responsibility for any errors that may appear in this document.

Gene Link disclaims all warranties with respect to this document, expressed or implied, including but not limited to those of merchantability or fitness for a particular purpose. In no event shall Gene Link be liable, whether in contract, tort, warranty, or under any statute or on any other basis for special, incidental, indirect, punitive, multiple or consequential damages in connection with or arising from this document, including but not limited to the use thereof.

Website

As the receipt of information on the Internet is highly dependent upon factors, including without limitations to, the user's computer, browser, operation system, etc., information may be perceived incorrectly. Therefore, Gene Link does not warrant or guarantee that the information contained on its website www.genelink.com is error free.

Product Warranty and Liability

Warranty: Gene Link makes no warranty of any kind, specifically disclaims and excludes all other warranties of any kind or nature, directly or indirectly, express or implied, including, without limitation, as to the suitability, productivity, durability, fitness for a particular purpose or use, merchantability, condition, or any other matter with respect to Gene Link products. Gene Link products are for research purposes only including custom products. There is no warranty or claim of its performance for any specific research application. All Gene Link products are guaranteed to meet or exceed the specifications stated. Each Gene Link product is shipped with documentation stating specifications and other technical information. If the product fails to meet the stated specifications the sole remedy is prompt replacement by Gene Link or within 30 days of purchase a refund of the purchased price.

Liability: Under no circumstances shall Gene Link be liable for any damages directly or indirectly related to Gene Link's products and services. Whether direct, incidental, foreseeable, consequential, or special (including but not limited to loss of use, revenue or profit), whether based upon warranty, contract, tort (including negligence) or strict liability arising in connection with the sale or the failure of Gene Link products to perform in accordance with the stated specifications.

Research Use Only. Not for use in diagnostic or clinical procedures.

Notice to Purchaser: The purchase of this product conveys to the purchaser the limited, non-transferable right to use the purchased amount of the product only to perform internal research for the sole benefit of the purchaser. No right to resell this product or any of its components is conveyed expressly, by implication, or by estoppel. This product is for internal research purposes only and is not for use in commercial applications of any kind, including, without limitation, quality control and commercial services such as reporting the results of purchaser's activities for a fee or other form of consideration. For information on obtaining additional rights, please contact sales@genelink.com.

© 2014 Gene Link Inc. All rights reserved.

The trademarks mentioned herein are the property of their respective owners.

Gene Link, Inc.
190 Saw Mill River Road
Hawthorne, NY 10532
USA

Tel: (914) 769-1192
Email: support@genelink.com
www.genelink.com