

# EpiTect® Methyl II Signature PCR Array (22)

## Human Stress & Toxicity PathwayFinder

Cat. no. 335212 EAHS-581ZE

### For DNA methylation analysis using MethylScreen™ technology

The Human Stress & Toxicity PathwayFinder EpiTect Methyl II Signature PCR Array profiles the promoter methylation status of a panel of 22 genes indicative of cellular stress responses and toxicity. Cells respond to a variety of exogenous insults by activating stress pathways, and epigenetic mechanisms regulate some of these responses. Multiple studies have found gene-specific methylation changes in stress response pathways upon in vitro exposure to stress or toxic compounds. However, the mechanistic details and functional consequences have yet to be discovered or confirmed by researchers. Profiling cellular or fresh tissue genomic DNA samples with these arrays may help correlate CpG island methylation status with biological phenotypes, such as the ability of cells to mount specific stress responses. This gene panel focuses on epigenetically-regulated genes confirmed experimentally to show changes in promoter methylation status. The results may also help provide further insights into the molecular mechanisms behind cellular stress responses. With a simple restriction enzyme digestion and real-time PCR, research studies can analyze the promoter methylation status of 22 different genes central to stress and toxicity with this DNA methylation PCR array. The EpiTect Methyl II PCR Arrays use MethylScreen™ technology provided under license from Orion Genomics, LLC. For further details, consult the *EpiTect Methyl II PCR Array Handbook*.

### Shipping and storage

EpiTect Methyl II Signature PCR Arrays are shipped at room temperature (15–25°C), on dry ice, or on blue ice depending on the destination and accompanying products. They should be stored at –20°C. Ensure that you have the correct EpiTect Methyl II Signature PCR Array format for your instrument before starting the experiment.

**Note:** Open the package and store the products appropriately immediately on receipt.



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Sample & Assay Technologies

## Contents

Product	Contents	Cat. no.
EpiTect Methyl II Signature PCR Array (22) Format A	2, 12, or 24 x 96-well plates, Optical Thin-Wall 8-Cap Strips; for use with the following real-time cyclers: Applied Biosystems® models 5700, 7000, 7300, 7500, 7700, 7900HT, ViiA™ 7 (96-well block); Bio-Rad® models iCycler®, iQ™ 5, MyiQ™, MyiQ2; Bio-Rad/MJ Research Chromo4™; Eppendorf® MasterCycler® ep realplex models 2, 2s, 4, 4s; Stratagene® models Mx3005P®, Mx3000P®	Varies
EpiTect Methyl II Signature PCR Array (22) Format C	2, 12, or 24 x 96-well plates, Optical Adhesive Film; for use with the following real-time cyclers: Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)	Varies
EpiTect Methyl II Signature PCR Array (22) Format D	2, 12, or 24 x 96-well plates, Optical Thin-Wall 8-Cap Strips; for use with the following real-time cyclers: Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®	Varies
EpiTect Methyl II Signature PCR Array (22) Format E	4 x 384-well plates, 384EZLoad Covers, Optical Adhesive Film; for use with the following real-time cyclers: Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™	Varies
EpiTect Methyl II Signature PCR Array (22) Format F	2, 12, or 24 x 96-well plates, Optical Adhesive Film; for use with the following real-time cyclers: Roche® LightCycler® 480 (96-well block)	Varies
EpiTect Methyl II Signature PCR Array (22) Format G	4 x 384-well plates, 384EZLoad Covers, Optical Adhesive Film; for use with the following real-time cyclers: Roche: LightCycler 480 (384-well block)	Varies

## Gene table

Position	Unigene	GenBank OR miRNA Accession	Gene Symbol OR miRNA ID	Description	Gene Name
A01, A02, B01, B02 E01, E02, F01, F02 I01, I02, J01, J02 M01, M02, N01, N02	Hs.367437	NM_000051	ATM	Ataxia telangiectasia mutated	AT1, ATA, ATC, ATD, ATDC, ATE, DKFZp781A0353, MGC74674, TEL1, TELO1
A03, A04, B03, B04 E03, E04, F03, F04 I03, I04, J03, J04 M03, M04, N03, N04	Hs.144873	NM_004052	BNIP3	BCL2/adenovirus E1B 19kDa interacting protein 3	NIP3
A05, A06, B05, B06 E05, E06, F05, F06 I05, I06, J05, J06 M05, M06, N05, N06	Hs.194143	NM_007294	BRCA1	Breast cancer 1, early onset	BRCAI, BRCC1, BROVCA1, IRIS, PNCA4, PSCP, RNF53
A07, A08, B07, B08 E07, E08, F07, F08 I07, I08, J07, J08 M07, M08, N07, N08	Hs.523852	NM_053056	CCND1	Cyclin D1	BCL1, D11S287E, PRAD1, U21B31
A09, A10, B09, B10 E09, E10, F09, F10 I09, I10, J09, J10 M09, M10, N09, N10	Hs.370771	NM_000389	CDKN1A	Cyclin-dependent kinase inhibitor 1A (p21, Cip1)	CAP20, CDKN1, CIP1, MDA-6, P21, SDI1, WAF1, p21CIP1
A11, A12, B11, B12 E11, E12, F11, F12 I11, I12, J11, J12 M11, M12, N11, N12	Hs.695	NM_000100	CSTB	Cystatin B (stefin B)	CST6, EPM1, PME, STFB
A13, A14, B13, B14 E13, E14, F13, F14 I13, I14, J13, J14 M13, M14, N13, N14	Hs.72912	NM_000499	CYP1A1	Cytochrome P450, family 1, subfamily A, polypeptide 1	AHH, AHRR, CP11, CYP1, P1-450, P450-C, P450DX
A15, A16, B15, B16 E15, E16, F15, F16 I15, I16, J15, J16 M15, M16, N15, N16	Hs.438830	NM_013238	DNAJC15	DnaJ (Hsp40) homolog, subfamily C, member 15	DNAJD1, HSD18, MCJ
A17, A18, B17, B18 E17, E18, F17, F18 I17, I18, J17, J18 M17, M18, N17, N18	Hs.80409	NM_001924	GADD45A	Growth arrest and DNA-damage-inducible, alpha	DDIT1, GADD45
A19, A20, B19, B20 E19, E20, F19, F20 I19, I20, J19, J20 M19, M20, N19, N20	Hs.9701	NM_006705	GADD45G	Growth arrest and DNA-damage-inducible, gamma	CR6, DDIT2, GADD45gamma, GRP17
A21, A22, B21, B22 E21, E22, F21, F22 I21, I22, J21, J22 M21, M22, N21, N22	Hs.616962	NM_004864	GDF15	Growth differentiation factor 15	GDF-15, MIC-1, MIC1, NAG-1, PDF, PLAB, PTGFB
A23, A24, B23, B24 E23, E24, F23, F24 I23, I24, J23, J24 M23, M24, N23, N24	Hs.386793	NM_002084	GPX3	Glutathione peroxidase 3 (plasma)	GPx-P, GSHPx-3, GSHPx-P
C01, C02, D01, D02 G01, G02, H01, H02 K01, K02, L01, L02 O01, O02, P01, P02	Hs.520819	NM_005542	INSIG1	Insulin induced gene 1	CL-6, CL6, MGC1405
C03, C04, D03, D04 G03, G04, H03, H04 K03, K04, L03, L04 O03, O04, P03, P04	Hs.195364	NM_000249	MLH1	MutL homolog 1, colon cancer, nonpolyposis type 2 (E. coli)	COCA2, FCC2, HNPCC, HNPCC2, MGC5172, hMLH1
C05, C06, D05, D06 G05, G06, H05, H06 K05, K06, L05, L06 O05, O06, P05, P06	Hs.597656	NM_000251	MSH2	MutS homolog 2, colon cancer, nonpolyposis type 1 (E. coli)	COCA1, FCC1, HNPCC, HNPCC1, LCFS2
C07, C08, D07, D08 G07, G08, H07, H08 K07, K08, L07, L08 O07, O08, P07, P08	Hs.432121	NM_005809	PRDX2	Peroxisedoxin 2	MGC4104, NKEFB, PRP, PRX2, PRXII, TDPX1, TPX1, TSA

Position	Unigene	GenBank OR miRNA Accession	Gene Symbol OR miRNA ID	Description	Gene Name
C09, C10, D09, D10 G09, G10, H09, H10 K09, K10, L09, L10 O09, O10, P09, P10	Hs.196384	NM_000963	PTGS2	Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	COX-2, COX2, GRIPGHS, PGG, HS, PGHS-2, PHS-2, hCox-2
C11, C12, D11, D12 G11, G12, H11, H12 K11, K12, L11, L12 O11, O12, P11, P12	Hs.654583	NM_001024809	RARA	Retinoic acid receptor, alpha	NR1B1, RAR
C13, C14, D13, D14 G13, G14, H13, H14 K13, K14, L13, L14 O13, O14, P13, P14	Hs.128856	NM_182826	SCARA3	Scavenger receptor class A, member 3	APC7, CSR, CSR1, MSLR1, MSRL1
C15, C16, D15, D16 G15, G16, H15, H16 K15, K16, L15, L16 O15, O16, P15, P16	Hs.654481	NM_000546	TP53	Tumor protein p53	FLJ92943, LFS1, P53, TRP53
C17, C18, D17, D18 G17, G18, H17, H18 K17, K18, L17, L18 O17, O18, P17, P18	Hs.529420	NM_182688	UBE2G2	Ubiquitin-conjugating enzyme E2G 2	UBC7
C19, C20, D19, D20 G19, G20, H19, H20 K19, K20, L19, L20 O19, O20, P19, P20	Hs.475538	NM_004628	XPC	Xeroderma pigmentosum, complementation group C	RAD4, XP3, XPCC
C21, C22, D21, D22 G21, G22, H21, H22 K21, K22, L21, L22 O21, O22, P21, P22	N/A	SA_00148	EP_SEC	SEC-sensitive enzyme control assay	SEC
C23, C24, D23, D24 G23, G24, H23, H24 K23, K24, L23, L24 O23, O24, P23, P24	N/A	SA_00149	EP_DEC	DEC-dependent enzyme control assay	DEC

## Related products

Product	Contents	Cat. no.
EpiTect Methyl II DNA Restriction Kit (12)	Reagents for the cleavage of methylated and unmethylated DNA for processing up to 12 DNA samples; 5x Restriction Digestion Buffer, Methylation-sensitive Enzyme A, Methylation-dependent Enzyme B	335452
RT <sup>2</sup> SYBR <sup>®</sup> Green qPCR Mastermixes(2)*	For 2 x 96 assays in 96-well plates; suitable for use with real-time cyclers that do not require a reference dye, including: Bio-Rad models CFX96, CFX384; Bio-Rad/MJ Research models Chromo4, DNA Engine Opticon 2; Roche LightCycler 480 (96-well and 384-well); all other cyclers	330500
RT <sup>2</sup> SYBR Green ROX <sup>™</sup> qPCR Mastermixes(2)*	For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Applied Biosystems models 5700, 7000, 7300, 7500 [Standard and Fast], 7700, 7900HT 96-well block [Standard and Fast] and 384-well block, StepOnePlus; Eppendorf Mastercycler ep realplex models 2, 2S, 4, 4S; Stratagene models Mx3000P, Mx3005P, Mx4000	330520
RT <sup>2</sup> SYBR Green Fluor qPCR Mastermixes(2)*	For 2 x 96 assays in 96-well plates; suitable for use with the following real-time cyclers: Bio-Rad models iCycler, iQ5, MyiQ, MyiQ2	330510
<b>Accessories</b>		
EpiTect Methyl II Custom PCR Array	For methylation analysis of customer-selected genes in a 96-well or 384-well plate format	335112
EpiTect Methyl II Complete PCR Array (94)	For methylation analysis of 94 genes in a 96-well or 384-well plate format	335222
EpiTect Methyl II PCR Assay (200)	Laboratory-tested forward and reverse primers for 200 x 25 µl reactions; 25 µl per primer; total volume: 200 µl	335002
RT <sup>2</sup> PCR Array Loading Reservoir	12 x 5 ml capacity, irradiation sterilized reservoirs for convenient sample loading on PCR arrays	338162

\* Larger kit sizes available; please inquire.

EpiTect Methyl II Signature PCR Array products are intended for molecular biology applications. These products are not intended for the diagnosis, prevention, or treatment of a disease.

QIAGEN reserves the right to occasionally redesign individual assays on the EpiTect Methyl II PCR Arrays for improved performance. This revision history can be obtained by contacting technical support and providing the batch numbers from your arrays.

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