

# EpiTect® Methyl II Signature PCR Array (22)

## Human DNA Repair

Cat. no. 335212 EAHS-421ZE

### For DNA methylation analysis using MethylScreen™ technology

The Human DNA Repair EpiTect Methyl II Signature PCR Array profiles the promoter methylation status of a panel of 22 promoters of genes involved in DNA repair pathways such as base excision repair, nucleotide excision repair, mismatch repair, and double-strand break repair. Hypermethylation-based silencing of these genes (BRCA1) increases mutation rates and tumor progression through the carcinogenic process. Profiling cellular or fresh tissue genomic DNA samples with these arrays may help correlate CpG island methylation status with biological phenotypes. The results may also help provide further insights into the role dysregulated DNA repair plays in diseases like cancer. With a simple restriction enzyme digestion and real-time PCR, research studies can analyze the promoter methylation status of 22 different genes involved in DNA repair 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.



## 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.73722	NM_080649	APEX1	APEX nuclease (multifunctional DNA repair enzyme) 1	APE, APE1, APEN, APEX, APX, HAP1, REF1
A03, A04, B03, B04 E03, E04, F03, F04 I03, I04, J03, J04 M03, M04, N03, N04	Hs.367437	NM_000051	ATM	Ataxia telangiectasia mutated	AT1, ATA, ATC, ATD, ATDC, ATE, DKFZp781A0353, MGC74674, TEL1, TELO1
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.34012	NM_000059	BRCA2	Breast cancer 2, early onset	BRCC2, BROVCA2, FACD, FAD, FAD1, FANCB, FANCD, FANCD1, GLM3, PNCA2
A09, A10, B09, B10 E09, E10, F09, F10 I09, I10, J09, J10 M09, M10, N09, N10	Hs.292524	NM_001239	CCNH	Cyclin H	CAK, p34, p37
A11, A12, B11, B12 E11, E12, F11, F12 I11, I12, J11, J12 M11, M12, N11, N12	Hs.409065	NM_004111	FEN1	Flap structure-specific endonuclease 1	FEN-1, MF1, RAD2
A13, A14, B13, B14 E13, E14, F13, F14 I13, I14, J13, J14 M13, M14, N13, N14	Hs.100299	NM_002311	LIG3	Ligase III, DNA, ATP-dependent	LIG2
A15, A16, B15, B16 E15, E16, F15, F16 I15, I16, J15, J16 M15, M16, N15, N16	Hs.195364	NM_000249	MLH1	MutL homolog 1, colon cancer, nonpolyposis type 2 (E. coli)	COCA2, FCC2, HNPCC, HNPCC2, MGC5172, hMLH1
A17, A18, B17, B18 E17, E18, F17, F18 I17, I18, J17, J18 M17, M18, N17, N18	Hs.436650	NM_014381	MLH3	MutL homolog 3 (E. coli)	HNPCC7, MGC138372
A19, A20, B19, B20 E19, E20, F19, F20 I19, I20, J19, J20 M19, M20, N19, N20	Hs.192649	NM_005590	MRE11A	MRE11 meiotic recombination 11 homolog A (S. cerevisiae)	ATLD, HNGS1, MRE11, MRE11B
A21, A22, B21, B22 E21, E22, F21, F22 I21, I22, J21, J22 M21, M22, N21, N22	Hs.597656	NM_000251	MSH2	MutS homolog 2, colon cancer, nonpolyposis type 1 (E. coli)	COCA1, FCC1, HNPCC, HNPCC1, LCF52
A23, A24, B23, B24 E23, E24, F23, F24 I23, I24, J23, J24 M23, M24, N23, N24	Hs.177766	NM_001618	PARP1	Poly (ADP-ribose) polymerase 1	ADPRT, ADPRT 1, ADPRT1, PARP, PARP-1, PPOL, pADPRT-1
C01, C02, D01, D02 G01, G02, H01, H02 K01, K02, L01, L02 O01, O02, P01, P02	Hs.632637	NM_000535	PMS2	PMS2 postmeiotic segregation increased 2 (S. cerevisiae)	HNPCC4, PMS2CL, PMSL2
C03, C04, D03, D04 G03, G04, H03, H04 K03, K04, L03, L04 O03, O04, P03, P04	Hs.654484	NM_002690	POLB	Polymerase (DNA directed), beta	MGC125976
C05, C06, D05, D06 G05, G06, H05, H06 K05, K06, L05, L06 O05, O06, P05, P06	Hs.82502	NM_006591	POLD3	Polymerase (DNA-directed), delta 3, accessory subunit	KIAA0039, MGC119642, MGC119643, P66, P68
C07, C08, D07, D08 G07, G08, H07, H08 K07, K08, L07, L08 O07, O08, P07, P08	Hs.643267	NM_005053	RAD23A	RAD23 homolog A (S. cerevisiae)	HHR23A, MGC111083

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.521640	NM_002874	RAD23B	RAD23 homolog B ( <i>S. cerevisiae</i> )	HHR23B, HR23B, P58
C11, C12, D11, D12 G11, G12, H11, H12 K11, K12, L11, L12 O11, O12, P11, P12	Hs.655835	NM_005732	RAD50	RAD50 homolog ( <i>S. cerevisiae</i> )	NBSLD, RAD502, hRad50
C13, C14, D13, D14 G13, G14, H13, H14 K13, K14, L13, L14 O13, O14, P13, P14	Hs.631709	NM_002875	RAD51	RAD51 homolog ( <i>S. cerevisiae</i> )	BRCC5, HRAD51, HsRad51, HsT16930, RAD51A, RECA
C15, C16, D15, D16 G15, G16, H15, H16 K15, K16, L15, L16 O15, O16, P15, P16	Hs.191334	NM_003362	UNG	Uracil-DNA glycosylase	DGU, DKFZp781L1143, HIGM4, UDG, UNG1, UNG15, UNG2
C17, C18, D17, D18 G17, G18, H17, H18 K17, K18, L17, L18 O17, O18, P17, P18	Hs.475538	NM_004628	XPC	Xeroderma pigmentosum, complementation group C	RAD4, XP3, XPCC
C19, C20, D19, D20 G19, G20, H19, H20 K19, K20, L19, L20 O19, O20, P19, P20	Hs.98493	NM_006297	XRCC1	X-ray repair complementing defective repair in Chinese hamster cells 1	RCC
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 $\mu$ l reactions; 25 $\mu$ l per primer; total volume: 200 $\mu$ l	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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