

# EpiTect® Methyl II Signature PCR Array (22)

## Human DNA Repair

Cat. no. 335212 EAHS-421ZA

### 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.



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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

## Array layout

	1	2	3	4	5	6	7	8	9	10	11	12
A	APEX1	ATM	BRCA1	BRCA2	CCNH	FEN1	LIG3	MLH1	MLH3	MRE11A	MSH2	PARP1
B	PMS2	POLB	POLD3	RAD23A	RAD23B	RAD50	RAD51	UNG	XPC	XRCC1	EP_SEC	EP_DEC
C	APEX1	ATM	BRCA1	BRCA2	CCNH	FEN1	LIG3	MLH1	MLH3	MRE11A	MSH2	PARP1
D	PMS2	POLB	POLD3	RAD23A	RAD23B	RAD50	RAD51	UNG	XPC	XRCC1	EP_SEC	EP_DEC
E	APEX1	ATM	BRCA1	BRCA2	CCNH	FEN1	LIG3	MLH1	MLH3	MRE11A	MSH2	PARP1
F	PMS2	POLB	POLD3	RAD23A	RAD23B	RAD50	RAD51	UNG	XPC	XRCC1	EP_SEC	EP_DEC
G	APEX1	ATM	BRCA1	BRCA2	CCNH	FEN1	LIG3	MLH1	MLH3	MRE11A	MSH2	PARP1
H	PMS2	POLB	POLD3	RAD23A	RAD23B	RAD50	RAD51	UNG	XPC	XRCC1	EP_SEC	EP_DEC

## Gene table

Position	Unigene	GenBank OR miRNA Accession	Gene Symbol OR miRNA ID	Description	Gene Name
A01, C01, E01, G01	Hs.73722	NM_080649	APEX1	APEX nuclease (multifunctional DNA repair enzyme) 1	APE, APE1, APEN, APEX, APX, HAP1, REF1
A02, C02, E02, G02	Hs.367437	NM_000051	ATM	Ataxia telangiectasia mutated	AT1, ATA, ATC, ATD, ATDC, ATE, DKFZp781A0353, MGC74674, TEL1, TELO1
A03, C03, E03, G03	Hs.194143	NM_007294	BRCA1	Breast cancer 1, early onset	BRCA1, BRCC1, BROVCA1, IRIS, PNCA4, PSCP, RNFS3
A04, C04, E04, G04	Hs.34012	NM_000059	BRCA2	Breast cancer 2, early onset	BRCC2, BROVCA2, FACD, FAD, FAD1, FANCB, FANCD, FANCD1, GLM3, PNCA2
A05, C05, E05, G05	Hs.292524	NM_001239	CCNH	Cyclin H	CAK, p34, p37
A06, C06, E06, G06	Hs.409065	NM_004111	FEN1	Flap structure-specific endonuclease 1	FEN-1, MF1, RAD2
A07, C07, E07, G07	Hs.100299	NM_002311	LIG3	Ligase III, DNA, ATP-dependent	LIG2
A08, C08, E08, G08	Hs.195364	NM_000249	MLH1	MutL homolog 1, colon cancer, nonpolyposis type 2 (E. coli)	COCA2, FCC2, HNPCC, HNPCC2, MGC5172, hMLH1
A09, C09, E09, G09	Hs.436650	NM_014381	MLH3	MutL homolog 3 (E. coli)	HNPCC7, MGC138372
A10, C10, E10, G10	Hs.192649	NM_005590	MRE11A	MRE11 meiotic recombination 11 homolog A (S. cerevisiae)	ATLD, HNGS1, MRE11, MRE11B
A11, C11, E11, G11	Hs.597656	NM_000251	MSH2	MutS homolog 2, colon cancer, nonpolyposis type 1 (E. coli)	COCA1, FCC1, HNPCC, HNPCC1, LCF52
A12, C12, E12, G12	Hs.177766	NM_001618	PARP1	Poly (ADP-ribose) polymerase 1	ADPRT, ADPRT 1, ADPRT1, PARP, PARP-1, PPOL, pADPRT-1
B01, D01, F01, H01	Hs.632637	NM_000535	PMS2	PMS2 postmeiotic segregation increased 2 (S. cerevisiae)	HNPCC4, PMS2CL, PMSL2
B02, D02, F02, H02	Hs.654484	NM_002690	POLB	Polymerase (DNA directed), beta	MGC125976
B03, D03, F03, H03	Hs.82502	NM_006591	POLD3	Polymerase (DNA-directed), delta 3, accessory subunit	KIAA0039, MGC119642, MGC119643, P66, P68
B04, D04, F04, H04	Hs.643267	NM_005053	RAD23A	RAD23 homolog A (S. cerevisiae)	HHR23A, MGC111083
B05, D05, F05, H05	Hs.521640	NM_002874	RAD23B	RAD23 homolog B (S. cerevisiae)	HHR23B, HR23B, P58
B06, D06, F06, H06	Hs.655835	NM_005732	RAD50	RAD50 homolog (S. cerevisiae)	NBSLD, RAD502, hRad50
B07, D07, F07, H07	Hs.631709	NM_002875	RAD51	RAD51 homolog (S. cerevisiae)	BRCC5, HRAD51, HsRad51, HsT16930, RAD51A, RECA
B08, D08, F08, H08	Hs.191334	NM_003362	UNG	Uracil-DNA glycosylase	DGU, DKFZp781L1143, HIGM4, UDG, UNG1, UNG15, UNG2
B09, D09, F09, H09	Hs.475538	NM_004628	XPC	Xeroderma pigmentosum, complementation group C	RAD4, XP3, XPCC
B10, D10, F10, H10	Hs.98493	NM_006297	XRCC1	X-ray repair complementing defective repair in Chinese hamster cells 1	RCC
B11, D11, F11, H11	N/A	SA_00148	EP_SEC	SEC-sensitive enzyme control assay	SEC
B12, D12, F12, H12	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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