EpiTect® ChIP qPCR Array

Human Cell Cycle

Cat. NO. 334211 GH-020A

For chromatin immunoprecipitation analysis

Format	For use with the following real-time cyclers
EpiTect ChIP qPCR Array Format A	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®; Takara: TP-800
EpiTect ChIP qPCR Array Format C	Applied Biosystems models 7500 (Fast block), 7900HT (Fast block), StepOnePlus™, ViiA 7 (Fast block)
EpiTect ChIP qPCR Array Format D	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®
EpiTect ChIP qPCR Array Format E	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
EpiTect ChIP qPCR Array Format F	Roche® LightCycler® 480 (96-well block)
EpiTect ChIP qPCR Array Format G	Roche: LightCycler 480 (384-well block)

Sample & Assay Technologies

Description

The Human Cell Cycle EpiTect ChIP qPCR Array profiles the histone modification status or "histone code" of 84 genes key to cell cycle regulation. Histone modifications regulate chromatin structure, genome integrity and transcriptional activity. Inappropriate increases or decreases in the expression of cell cycle regulators by epigenetic mechanisms contribute to oncogenesis and senescence. For example, histone methylation (H3K9) of the CDKN1A promoter causes transcriptional repression of this gene, leading to uncontrolled cell cycle progression. Epigenetic regulation of cell cycle gene expression also occurs during differentiation and development programs, from multipotent progenitor cells to terminally differentiated non-dividing cells. This array contains genes that positively and negatively regulate the cell cycle, its phase transitions and checkpoints, DNA replication and cell cycle arrest. Using chromatin immunoprecipitation and this qPCR Array, you can easily and reliably analyze the histone modification patterns associated with a focused gene panel involved in the cell cycle.

For further details, consult the *EpiTect ChIP qPCR Array Handbook*.

Shipping and storage

EpiTect ChIP qPCR Arrays are shipped at room temperature (15–25ºC), 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 ChIP qPCR Array format for your instrument before starting the experiment.

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

Array layout

	1	2	3	4	5	6	7	8	9	10	11	12
A	ABL1	ANAPC2	ANAPC4	ATM	ATR	BAX	BCCIP	BCL2	BIRC5	BRCA1	BRCA2	CCNB1
B	CCNB2	CCNC	CCND1	CCND2	CCNE1	CCNF	CCNG1	CCNG2	CCNH	CCNT1	CCNT2	CDC16
C	CDC2	CDC20	CDC34	CDK2	CDK4	CDK5R1	CDK5RAP1	CDK6	CDK7	CDK8	CDKN1A	CDKN1B
D	CDKN2A	CDKN2B	CDKN2C	CDKN3	CHEK1	CHEK2	CKS1B	CKS2	CUL2	CUL3	DDX11	DIRAS3
E	DNM2	E2F4	GADD45A	GTF2H1	GTSE1	HUS1	KNTC1	KPNA2	MAD2L1	MAD2L1BP	MAD2L2	MCM2
F	MCM3	MCM4	MCM5	MKI67	MNAT1	MRE11A	NBN	PCNA	RAD1	RAD17	RAD51	RAD9A
G	RB1	RBBP8	RBL1	RBL2	RPA3	SERTAD1	SKP2	SUMO1	TFDP1	TFDP2	TP53	UBA1
H	GAPDH	GAPDH	GAPDH	ALDOA	RPL30	MYOD1	SA-15_SERPIN A1	SA-12_SAT2	SATa	IGX1A	PPC	PPC

Gene table

Position	UniGene	GenBank	Gene Symbol	Description	Primer Catalog No.
A01	Hs.431048	NM_005157	ABL1	C-abl oncogene 1, non-receptor tyrosine kinase	GPH1013354(+)01A
A02	Hs.533262	NM_013366	ANAPC2	Anaphase promoting complex subunit 2	GPH1027090(+)01A
A03	Hs.152173	NM_013367	ANAPC4	Anaphase promoting complex subunit 4	GPH1009943(+)01A
A04	Hs.367437	NM_000051	ATM	Ataxia telangiectasia mutated	GPH1002696(+)01A
A05	Hs.271791	NM_001184	ATR	Ataxia telangiectasia and Rad3 related	GPH1023307(+)01A
A06	Hs.624291	NM_004324	BAX	BCL2-associated X protein	GPH1007033(+)01A
A07	Hs.370292	NM_016567	BCCIP	BRCA2 and CDKN1A interacting protein	GPH1001958(+)01A
A08	Hs.150749	NM_000633	BCL2	B-cell CLL/lymphoma 2	GPH1020168(+)01A
A09	Hs.728893	NM_001168	BIRC5	Baculoviral IAP repeat containing 5	GPH1006069(+)01A
A10	Hs.194143	NM_007294	BRCA1	Breast cancer 1, early onset	GPH1019647(+)01A
A11	Hs.34012	NM_000059	BRCA2	Breast cancer 2, early onset	GPH1003593(+)01A
A12	Hs.23960	NM_031966	CCNB1	Cyclin B1	GPH1010523(+)01A
B01	Hs.194698	NM_004701	CCNB2	Cyclin B2	GPH1004509(+)01A
B02	Hs.430646	NM_005190	CCNC	Cyclin C	GPH1025090(+)01A
B03	Hs.523852	NM_053056	CCND1	Cyclin D1	GPH1002541(+)01A
B04	Hs.376071	NM_001759	CCND2	Cyclin D2	GPH1002883(+)01A
B05	Hs.244723	NM_001238	CCNE1	Cyclin E1	GPH1006730(+)01A
B06	Hs.1973	NM_001761	CCNF	Cyclin F	GPH1004842(+)01A
B07	Hs.79101	NM_004060	CCNG1	Cyclin G1	GPH1010919(+)01A
B08	Hs.13291	NM_004354	CCNG2	Cyclin G2	GPH1010080(+)01A
B09	Hs.292524	NM_001239	CCNH	Cyclin H	GPH1024254(+)01A
B10	Hs.279906	NM_001240	CCNT1	Cyclin T1	GPH1017110(+)01A
B11	Hs.591241	NM_001241	CCNT2	Cyclin T2	GPH1007799(+)01A
B12	Hs.374127	NM_003903	CDC16	Cell division cycle 16 homolog (S. cerevisiae)	GPH1003769(+)01A
C01			CDC2		GPH1001624(+)01A
C02	Hs.524947	NM_001255	CDC20	Cell division cycle 20 homolog (S. cerevisiae)	GPH1000415(+)01A
C03	Hs.514997	NM_004359	CDC34	Cell division cycle 34 homolog (S. cerevisiae)	GPH1006359(+)01A
C04	Hs.19192	NM_001798	CDK2	Cyclin-dependent kinase 2	GPH1003197(+)01A
C05	Hs.95577	NM_000075	CDK4	Cyclin-dependent kinase 4	GPH1017266(+)01A
C06	Hs.500015	NM_003885	CDK5R1	Cyclin-dependent kinase 5, regulatory subunit 1 (p35)	GPH1005663(+)01A
C07	Hs.435952	NM_016408	CDK5RAP1	CDK5 regulatory subunit associated protein 1	GPH1022066(+)01A
C08	Hs.119882	NM_001259	CDK6	Cyclin-dependent kinase 6	GPH1025665(+)01A
C09	Hs.184298	NM_001799	CDK7	Cyclin-dependent kinase 7	GPH1010526(+)01A
C10	Hs.382306	NM_001260	CDK8	Cyclin-dependent kinase 8	GPH1003566(+)01A
C11	Hs.370771	NM_000389	CDKN1A	Cyclin-dependent kinase inhibitor 1A (p21, Cip1)	GPH1011318(+)01A
C12	Hs.238990	NM_004064	CDKN1B	Cyclin-dependent kinase inhibitor 1B (p27, Kip1)	GPH1002977(+)01A
D01	Hs.512599	NM_000077	CDKN2A	Cyclin-dependent kinase inhibitor 2A (melanoma, p16, inhibits CDK4)	GPH1026567(+)01A
D02	Hs.72901	NM_004936	CDKN2B	Cyclin-dependent kinase inhibitor 2B (p15, inhibits CDK4)	GPH1026568(+)01A
D03	Hs.728783	NM_078626	CDKN2C	Cyclin-dependent kinase inhibitor 2C (p18, inhibits CDK4)	GPH1000476(+)01A
D04	Hs.84113	NM_005192	CDKN3	Cyclin-dependent kinase inhibitor 3	GPH1003928(+)01A
D05	Hs.24529	NM_001274	CHEK1	CHK1 checkpoint homolog (S. pombe)	GPH1002823(+)01A
D06	Hs.291363	NM_007194	CHEK2	CHK2 checkpoint homolog (S. pombe)	GPH1022579(+)01A
D07	Hs.374378	NM_001826	CKS1B	CDC28 protein kinase regulatory subunit 1B	GPH1000910(+)01A
D08	Hs.83758	NM_001827	CKS2	CDC28 protein kinase regulatory subunit 2	GPH1013126(+)01A
D09	Hs.82919	NM_003591	CUL2	Cullin 2	GPH1015634(+)01A

Position	UniGene	GenBank	Gene Symbol	Description	Primer Catalog No.
D10	Hs.372286	NM_003590	CUL3	Cullin 3	GPH1021830(+)01A
D11	Hs.443960	NM_004399	DDX11	DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 11	GPH1003040(+)01A
D12	Hs.194695	NM_004675	DIRAS3	DIRAS family, GTP-binding RAS-like 3	GPH1014649(+)01A
E01	Hs.211463	NM_004945	DNM2	Dynamin 2	GPH1006544(+)01A
E02	Hs.108371	NM_001950	E2F4	E2F transcription factor 4, p107/p130-binding	GPH1005222(+)01A
E03	Hs.80409	NM_001924	GADD45A	Growth arrest and DNA-damage-inducible, alpha	GPH1000552(+)01A
E04	Hs.577202	NM_005316	GTF2H1	General transcription factor IIH, polypeptide 1, 62kDa	GPH1002175(+)01A
E05	Hs.386189	NM_016426	GTSE1	G-2 and S-phase expressed 1	GPH1009043(+)01A
E06	Hs.152983	NM_004507	HUS1	HUS1 checkpoint homolog (S. pombe)	GPH1025520(+)01A
E07	Hs.300559	NM_014708	KNTC1	Kinetochore associated 1	GPH1003483(+)01A
E08	Hs.594238	NM_002266	KPNA2	Karyopherin alpha 2 (RAG cohort 1, importin alpha 1)	GPH1005979(+)01A
E09	Hs.591697	NM_002358	MAD2L1	MAD2 mitotic arrest deficient-like 1 (yeast)	GPH1023863(+)01A
E10	Hs.122346	NM_014628	MAD2L1BP	MAD2L1 binding protein	GPH1011374(+)01A
E11	Hs.19400	NM_006341	MAD2L2	MAD2 mitotic arrest deficient-like 2 (yeast)	GPH1014264(+)01A
E12	Hs.477481	NM_004526	MCM2	Minichromosome maintenance complex component 2	GPH1009530(+)01A
F01	Hs.179565	NM_002388	MCM3	Minichromosome maintenance complex component 3	GPH1024988(+)01A
F02	Hs.460184	NM_005914	MCM4	Minichromosome maintenance complex component 4	GPH1012631(+)01A
F03	Hs.517582	NM_006739	MCM5	Minichromosome maintenance complex component 5	GPH1008926(+)01A
F04	Hs.689823	NM_002417	MKI67	Antigen identified by monoclonal antibody Ki-67	GPH1016017(+)01A
F05	Hs.509523	NM_002431	MNAT1	Menage a trois homolog 1, cyclin H assembly factor (Xenopus laevis)	GPH1003962(+)01A
F06	Hs.192649	NM_005590	MRE11A	MRE11 meiotic recombination 11 homolog A (S. cerevisiae)	GPH1016672(+)01A
F07	Hs.492208	NM_002485	NBN	Nibrin	GPH1026279(+)01A
F08	Hs.728886	NM_182649	PCNA	Proliferating cell nuclear antigen	GPH1021968(+)01A
F09	Hs.531879	NM_002853	RAD1	RAD1 homolog (S. pombe)	GPH1024095(+)01A
F10	Hs.16184	NM_002873	RAD17	RAD17 homolog (S. pombe)	GPH1010529(+)01A
F11	Hs.631709	NM_002875	RAD51	RAD51 homolog (S. cerevisiae)	GPH1004412(+)01A
F12	Hs.655354	NM_004584	RAD9A	RAD9 homolog A (S. pombe)	GPH1002523(+)01A
G01	Hs.408528	NM_000321	RB1	Retinoblastoma 1	GPH1003637(+)01A
G02	Hs.546282	NM_002894	RBBP8	Retinoblastoma binding protein 8	GPH1006206(+)01A
G03	Hs.207745	NM_002895	RBL1	Retinoblastoma-like 1 (p107)	GPH1022102(+)01A
G04	Hs.513609	NM_005611	RBL2	Retinoblastoma-like 2 (p130)	GPH1005141(+)01A
G05	Hs.487540	NM_002947	RPA3	Replication protein A3, 14kDa	GPH1025370(+)01A
G06	Hs.269898	NM_013376	SERTAD1	SERTA domain containing 1	GPH1020697(+)01A
G07	Hs.23348	NM_005983	SKP2	S-phase kinase-associated protein 2 (p45)	GPH1010442(+)01A
G08	Hs.81424	NM_003352	SUMO1	SMT3 suppressor of mif two 3 homolog 1 (S. cerevisiae)	GPH1021746(+)01A
G09	Hs.79353	NM_007111	TFDP1	Transcription factor Dp-1	GPH1003762(+)01A
G10	Hs.379018	NM_006286	TFDP2	Transcription factor Dp-2 (E2F dimerization partner 2)	GPH1023304(+)01A
G11	Hs.654481	NM_000546	TP53	Tumor protein p53	GPH1019298(+)01A
G12	Hs.533273	NM_003334	UBA1	Ubiquitin-like modifier activating enzyme 1	GPH1013596(+)01A
H01	Hs.592355	NM_002046	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase	GPH1002905(-)03A
H02	Hs.592355	NM_002046	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase	GPH110001C(+)01A
H03	Hs.592355	NM_002046	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase	GPH1002905(+)04A
H04	Hs.513490	NM_000034	ALDOA	Aldolase A, fructose-bisphosphate	GPH1005057(+)01A
H05	Hs.400295	NM_000989	RPL30	Ribosomal protein L30	GPH1026309(+)01A
H06	Hs.181768	NM_002478	MYOD1	Myogenic differentiation 1	GPH110002C(+)01A
H07			SA-15_SERPINA1		GPH110004C(+)01A
H08			SA-12_SAT2		GPH110003C(+)01A
H09			SATa		GPH110005C(+)01A
H10			IGX1A		GPH100001C(-)01A
H11			PPC		GPX1900002(-)01A
H12			PPC		GPX1900002(-)01A

EpiTect ChIP qPCR Array products are intended for molecular biology applications. These products are not intended for the diagnosis, prevention, or treatment of a disease.

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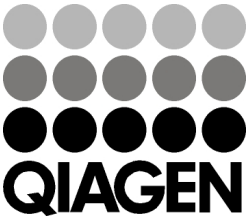

Sample & Assay Technologies