qBiomarker Somatic Mutation PCR Array

Human APC/CTNNB1(beta-catenin) Pathway

Cat. no. 337021 SMH-010A

For real-time PCR-based, pathway-focused, somatic mutation profiling

Format	For use with the following real-time cyclers
Format A, with fluorescein	Bio-Rad® models iCycler®, iQ™5, MyiQ™, MyiQ2
Format A, with ROX™	Applied Biosystems® models 5700, 7000, 7300, 7500, 7700, 7900HT, ViiA™ 7 (96-well blocks); Bio-Rad/MJ Research Chromo4™; Eppendorf® Mastercycler® ep realplex models 2, 2s, 4, 4s; Stratagene® models Mx3005P®, Mx3000P®
Format C, with ROX	Applied Biosystems models 7500 (Fast, 96-well block), 7900HT (Fast, 96-well block), StepOnePlus™, ViiA 7 (Fast, 96-well block)
Format D, with ROX	Bio-Rad CFX96™; Bio-Rad/MJ Research models DNA Engine Opticon®, DNA Engine Opticon 2; Stratagene Mx4000®
Format E, with ROX	Applied Biosystems models 7900HT (384-well block), ViiA 7 (384-well block); Bio-Rad CFX384™
Format F, with ROX	Roche® LightCycler® 480 (96-well block)
Format G, with ROX	Roche LightCycler 480 (384-well block)

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Sample & Assay Technologies

Description

The Human APC/CTNNB1 (Beta-Catenin) Pathway qBiomarker Somatic Mutation PCR Array is a translational research tool that allows rapid, accurate, and comprehensive profiling of the somatic mutation status for key genes in the PI3K pathway: APC, CDH1, and CTNNB1 (beta-catenin). Components in this pathway are frequently mutated in human cancers such as colon, ovarian, and prostate cancers and therefore warrant extensive investigation to enhance the understanding of carcinogenesis and identify potential drug targets. The utility of individual and multiple somatic mutation status information in identifying key signaling-transduction disruptions has been demonstrated in numerous research studies. For example, the mutation status of the EGFR and KRAS genes can predict the physiological response to certain drugs targeting these molecules. The APC/CTNNB1 (beta-catenin) Pathway qBiomarker Somatic Mutation PCR Array, with its comprehensive content coverage, is designed for studying mutations in the context of the APC/CTNNB1 (beta-catenin) pathway and provides the potential to discover and verify drug target biomarkers for a variety of human cancers involving the APC/CTNNB1 (beta-catenin) signaling pathway and downstream effectors. This array includes 91 DNA sequence mutation assays designed to detect the most frequent, functionally verified, and biologically significant mutations in the APC/CTNNB1 (beta-catenin) pathway. These mutations were chosen from curated, comprehensive, somatic mutation databases and peer-reviewed scientific literature. The simplicity of the product format and operating procedure allows routine somatic mutation profiling in any research laboratory with access to real-time PCR instruments.

For a summary of the functional annotations of the mutation assays included and references supporting this array design, please refer to the appropriate Web page.

For further details, consult the *qBiomarker Somatic Mutation PCR Handbook*.

Shipping and storage

qBiomarker Somatic Mutation PCR Arrays are shipped at ambient temperature or on blue ice packs. For long term storage, keep plates at –20°C. Ensure that you have the correct qBiomarker Somatic Mutation PCR Array format for your real-time cycler (see table above). qBiomarker Probe Mastermixes are shipped on blue ice packs. For long term storage, keep qBiomarker Probe Mastermixes at 4°C.

Note: Ensure that you have the correct qBiomarker Probe Mastermix, with the correct reference dye if required, for your instrument.

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

Assay table

Position	Gene	COSMIC ID	Nucleotide Change	Amino Acid Change	Assay Catalog #
A01	APC	18852	c.2626C>T	p.R876*	SMPH000580A
A02	APC	13125	c.3340C>T	p.R1114*	SMPH000586A
A03	APC	19072	c.3871C>T	p.Q1291*	SMPH000513A
A04	APC	18960	c.3880C>T	p.Q1294*	SMPH000605A
A05	APC	13728	c.3907C>T	p.Q1303*	SMPH000560A
A06	APC	18760	c.3916G>T	p.E1306*	SMPH000731A
A07	APC	19203	c.3919_3920insA	p.I1307fs*8	SMPH001187A
A08	APC	18950	c.3920_3924delTAAAA	p.I1307fs*6	SMPH000728A
A09	APC	18764	c.3921_3925delAAAAG	p.E1309fs*4	SMPH000606A
A10	APC	18775	c.3925G>T	p.E1309*	SMPH000522A
A11	APC	13113	c.3927_3931delAAAGA	p.E1309fs*4	SMPH000523A
A12	APC	18942	c.3928A>T	p.K1310*	SMPH000636A
B01	APC	18817	c.3934G>T	p.G1312*	SMPH000565A
B02	APC	18777	c.3944C>A	p.S1315*	SMPH000783A
B03	APC	18700	c.3956delC	p.P1319fs*2	SMPH000576A
B04	APC	18702	c.3964G>T	p.E1322*	SMPH000685A
B05	APC	18859	c.3982C>T	p.Q1328*	SMPH000626A
B06	APC	13129	c.4012C>T	p.Q1338*	SMPH000527A
B07	APC	25814	c.4023T>G	p.S1341R	SMPH000594A
B08	APC	25826	c.4037C>G	p.S1346*	SMPH000607A
B09	APC	19048	c.4057G>T	p.E1353*	SMPH000528A
B10	APC	18779	c.4067C>G	p.S1356*	SMPH000603A
B11	APC	41623	c.4081_4082delCC	p.P1361fs*13	SMPH018172A
B12	APC	13121	c.4099C>T	p.Q1367*	SMPH000702A
C01	APC	19033	c.4110_4111delAA	p.P1372fs*2	SMPH001245A
C02	APC	19696	c.4117delC	p.P1373fs*42	SMPH001080A
C03	APC	41619	c.4118_4118delC	p.P1373fs*42	SMPH018167A
C04	APC	18862	c.4132C>T	p.Q1378*	SMPH000590A
C05	APC	18834	c.4135G>T	p.E1379*	SMPH000530A
C06	APC	18780	c.4192_4193delAG	p.R1399fs*9	SMPH000617A
C07	APC	19051	c.4199delC	p.S1400fs*1	SMPH000693A
C08	APC	19087	c.4216C>T	p.Q1406*	SMPH000690A
C09	APC	19088	c.4219_4220delAG	p.S1407fs*1	SMPH001089A
C10	APC	18822	c.4222G>T	p.E1408*	SMPH000609A
C11	APC	18948	c.4233delT	p.S1411fs*4	SMPH000571A
C12	APC	41631	c.4239_4240insA	p.V1414fs*9	SMPH018168A
D01	APC	18836	c.4285C>T	p.Q1429*	SMPH000549A
D02	APC	18704	c.4312delA	p.T1438fs*35	SMPH000715A
D03	APC	19594	c.4318delC	p.P1440fs*33	SMPH000982A
D04	APC	13127	c.4348C>T	p.R1450*	SMPH000539A
D05	APC	18825	c.4364delA	p.N1455fs*18	SMPH000854A
D06	APC	18873	c.4385_4386delAG	p.S1465fs*3	SMPH000704A
D07	APC	18838	c.4391_4394delAGAG	p.E1464fs*8	SMPH000811A
D08	APC	41626	c.4460_4469del10	p.T1487fs*17	SMPH018174A
D09	APC	41618	c.4463_4466delTATT	p.L1488fs*18	SMPH018166A
D10	APC	19054	c.4473delT	p.F1491fs*16	SMPH000577A
D11	APC	18786	c.4476delC	p.T1493fs*14	SMPH000633A
D12	APC	25817	c.4610C>A	p.T1537K	SMPH000597A
E01	APC	41616	c.4654G>T	p.E1552*	SMPH018164A
E02	APC	19695	c.4660_4661insA	p.T1556fs*3	SMPH001074A
E03	APC	13123	c.4729G>T	p.E1577*	SMPH001200A
E04	APC	13862	c.904C>T	p.R302*	SMPH000669A
E05	CDH1	19748	c.1108G>C	p.D370H	SMPH002524A
E06	CDH1	19822	c.1901C>T	p.A634V	SMPH002591A
E07	CDH1	28934	c.240_241insGGTG	p.V82fs*13	SMPH002484A
E08	CDH1	19785	c.786_794CACCCAGGA>T	p.T263fs*3	SMPH002457A
E09	CTNNB1	5686	c.100G>A	p.G34R	SMPH003974A
E10	CTNNB1	5684	c.100G>C	p.G34R	SMPH003983A
E11	CTNNB1	5671	c.101G>A	p.G34E	SMPH003960A
E12	CTNNB1	5670	c.101G>T	p.G34V	SMPH003948A
F01	CTNNB1	5674	c.104T>G	p.I35S	SMPH003993A
F02	CTNNB1	5678	c.107A>C	p.H36P	SMPH003951A
F03	CTNNB1	5687	c.109T>C	p.S37P	SMPH003981A
F04	CTNNB1	5675	c.109T>G	p.S37A	SMPH003985A
F05	CTNNB1	5666	c.110C>A	p.S37Y	SMPH003961A
F06	CTNNB1	5679	c.110C>G	p.S37C	SMPH003962A
F07	CTNNB1	5662	c.110C>T	p.S37F	SMPH003946A
F08	CTNNB1	5708	c.119C>T	p.T40I	SMPH003987A
F09	CTNNB1	5664	c.121A>G	p.T41A	SMPH003950A
F10	CTNNB1	5676	c.122C>T	p.T41I	SMPH003952A

Position	Gene	COSMIC ID	Nucleotide Change	Amino Acid Change	Assay Catalog #
F11	CTNNB1	6128	c.133_135delTCT	p.S45del	SMPH004022A
F12	CTNNB1	5663	c.133T>C	p.S45P	SMPH003970A
G01	CTNNB1	5685	c.133T>G	p.S45A	SMPH003966A
G02	CTNNB1	6131	c.134_136delCTC	p.S45del	SMPH004151A
G03	CTNNB1	5689	c.134C>G	p.S45C	SMPH004023A
G04	CTNNB1	5667	c.134C>T	p.S45F	SMPH003953A
G05	CTNNB1	6035	c.14_430del417	p.A5_Q143del	SMPH004103A
G06	CTNNB1	5733	c.143G>A	p.G48D	SMPH003935A
G07	CTNNB1	5709	c.146A>G	p.K49R	SMPH004177A
G08	CTNNB1	5737	c.157G>A	p.E53K	SMPH003937A
G09	CTNNB1	5672	c.94G>A	p.D32N	SMPH003957A
G10	CTNNB1	5668	c.94G>C	p.D32H	SMPH003967A
G11	CTNNB1	5661	c.94G>T	p.D32Y	SMPH003956A
G12	CTNNB1	5690	c.95A>C	p.D32A	SMPH003965A
H01	CTNNB1	5681	c.95A>G	p.D32G	SMPH003973A
H02	CTNNB1	5691	c.95A>T	p.D32V	SMPH003958A
H03	CTNNB1	5682	c.97T>C	p.S33P	SMPH003969A
H04	CTNNB1	5683	c.97T>G	p.S33A	SMPH003968A
H05	CTNNB1	5673	c.98C>A	p.S33Y	SMPH003959A
H06	CTNNB1	5677	c.98C>G	p.S33C	SMPH003963A
H07	CTNNB1	5669	c.98C>T	p.S33F	SMPH003964A
H08	APC	99000030	copy number	copy number	SMPH017192A
H09	CDH1	99000048	copy number	copy number	SMPH017210A
H10	CTNNB1	99000042	copy number	copy number	SMPH017204A
H11	SMPC	99000017	positive PCR control	positive PCR control	SMPH017179A
H12	SMPC	99000017	positive PCR control	positive PCR control	SMPH017179A

Array layout

	1	2	3	4	5	6	7	8	9	10	11	12
A	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC
B	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC
C	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC
D	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC
E	APC	APC	APC	APC	CDH1	CDH1	CDH1	CDH1	CTNNB1	CTNNB1	CTNNB1	CTNNB1
F	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1
G	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1
H	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	APC	CDH1	CTNNB1	SMPC	SMPC

qBiomarker Somatic Mutation PCR 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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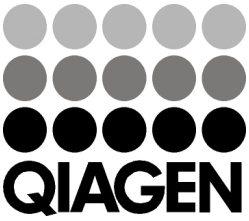

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