

qBiomarker Somatic Mutation PCR Array

Human APC Gene

Cat. no. 337021 SMH-801AA

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)



Sample & Assay Technologies

Description

The Human APC Gene qBiomarker Somatic Mutation PCR Array allows the detection of 44 unique mutations in the human APC gene. APC, a tumor suppressor gene, regulates the cell cycle, microtubule stability and WNT signaling. Previous scientific reports have shown a strong association between mutations in the APC gene and colon cancer. The APC mutations found in cancer samples are predominately inactivating nonsense and frameshift mutations. The DNA sequence mutation assays in the array detect the most frequent mutations in APC compiled from over 2,900 reported cancer sample sequences. Each mutation assay is bench-tested for the sensitive detection of a low percentage of mutation-containing DNA in a background of wild-type genomic DNA. The 96-well format of this array profiles the mutation status of 2 samples, while the 384-well array format profiles 8 samples, and each set of plates includes qPCR mastermix. Using real-time PCR, research studies can easily and reliably detect a panel of mutations in the APC gene with this array.

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	13127	c.4348C>T	p.R1450*	SMPH000539A
A02	APC	18561	c.4666_4667insA	p.T1556fs*3	SMPH000579A
A03	APC	13113	c.3927_3931delAAAGA	p.E1309fs*4	SMPH000523A
A04	APC	19695	c.4660_4661insA	p.T1556fs*3	SMPH001074A
A05	APC	18862	c.4132C>T	p.Q1378*	SMPH000590A
A06	APC	18836	c.4285C>T	p.Q1429*	SMPH000549A
A07	APC	18764	c.3921_3925delAAAAG	p.E1309fs*4	SMPH000606A
A08	APC	19033	c.4110_4111delAA	p.P1372fs*2	SMPH001245A
A09	APC	18817	c.3934G>T	p.G1312*	SMPH000565A
A10	APC	13123	c.4729G>T	p.E1577*	SMPH001200A
A11	APC	18775	c.3925G>T	p.E1309*	SMPH000522A
A12	APC	13129	c.4012C>T	p.Q1338*	SMPH000527A
B01	APC	13125	c.3340C>T	p.R1114*	SMPH000586A
B02	APC	41623	c.4081_4082delCC	p.P1361fs*13	SMPH018172A
B03	APC	25814	c.4023T>G	p.S1341R	SMPH000594A
B04	APC	18838	c.4391_4394delAGAG	p.E1464fs*8	SMPH000811A
B05	APC	18834	c.4135G>T	p.E1379*	SMPH000530A
B06	APC	19054	c.4473delT	p.F1491fs*16	SMPH000577A
B07	APC	41617	c.3700_3700delA	p.S1234fs*31	SMPH018165A
B08	APC	41618	c.4463_4466delTATT	p.L1488fs*18	SMPH018166A
B09	APC	18786	c.4476delC	p.T1493fs*14	SMPH000633A
B10	APC	13121	c.4099C>T	p.Q1367*	SMPH000702A
B11	APC	18760	c.3916G>T	p.E1306*	SMPH000731A
B12	APC	18873	c.4385_4386delAG	p.S1465fs*3	SMPH000704A
C01	APC	19203	c.3919_3920insA	p.I1307fs*8	SMPH001187A
C02	APC	41619	c.4118_4118delC	p.P1373fs*42	SMPH018167A
C03	APC	18852	c.2626C>T	p.R876*	SMPH000580A
C04	APC	18702	c.3964G>T	p.E1322*	SMPH000685A
C05	APC	13728	c.3907C>T	p.Q1303*	SMPH000560A
C06	APC	41620	c.4731_4734delATGT	p.C1578fs*71	SMPH018169A
C07	APC	18950	c.3920_3924delTAAAA	p.I1307fs*6	SMPH000728A
C08	APC	18948	c.4233delT	p.S1411fs*4	SMPH000571A
C09	APC	18700	c.3956delC	p.P1319fs*2	SMPH000576A
C10	APC	19088	c.4219_4220delAG	p.S1407fs*1	SMPH001089A
C11	APC	41626	c.4460_4469del10	p.T1487fs*17	SMPH018174A
C12	APC	13862	c.904C>T	p.R302*	SMPH000669A
D01	APC	19087	c.4216C>T	p.Q1406*	SMPH000690A
D02	APC	19696	c.4117delC	p.P1373fs*42	SMPH001080A
D03	APC	18960	c.3880C>T	p.Q1294*	SMPH000605A
D04	APC	18859	c.3982C>T	p.Q1328*	SMPH000626A
D05	APC	18704	c.4312delA	p.T1438fs*35	SMPH000715A
D06	APC	41616	c.4654G>T	p.E1552*	SMPH018164A
D07	APC	19072	c.3871C>T	p.Q1291*	SMPH000513A
D08	APC	18822	c.4222G>T	p.E1408*	SMPH000609A
D09	APC	99000030	copy number	copy number	SMPH017192A
D10	APC	99000030	copy number	copy number	SMPH017192A
D11	SMPC	99000017	positive PCR control	positive PCR control	SMPH017179A
D12	SMPC	99000017	positive PCR control	positive PCR control	SMPH017179A
E01	APC	13127	c.4348C>T	p.R1450*	SMPH000539A
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F10	APC	13121	c.4099C>T	p.Q1367*	SMPH000702A
F11	APC	18760	c.3916G>T	p.E1306*	SMPH000731A
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G06	APC	41620	c.4731_4734delATGT	p.C1578fs*71	SMPH018169A
G07	APC	18950	c.3920_3924delTAAAA	p.I1307fs*6	SMPH000728A
G08	APC	18948	c.4233delT	p.S1411fs*4	SMPH000571A
G09	APC	18700	c.3956delC	p.P1319fs*2	SMPH000576A
G10	APC	19088	c.4219_4220delAG	p.S1407fs*1	SMPH001089A
G11	APC	41626	c.4460_4469del10	p.T1487fs*17	SMPH018174A
G12	APC	13862	c.904C>T	p.R302*	SMPH000669A
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H09	APC	99000030	copy number	copy number	SMPH017192A
H10	APC	99000030	copy number	copy number	SMPH017192A
H11	SMP	99000017	positive PCR control	positive PCR control	SMPH017179A
H12	SMP	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	SMPC	SMPC
E	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC
F	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC
G	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC
H	APC	APC	APC	APC	APC	APC	APC	APC	APC	APC	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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