

qBiomarker Somatic Mutation PCR Array

Human Ovarian Cancer

Cat. no. 337021 SMH-039A

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 Ovarian Cancer qBiomarker Somatic Mutation PCR Array is a translational research tool that allows rapid, accurate, and comprehensive profiling of the somatic mutations in human ovarian cancer samples in the following key genes: BRAF, CTNNB1/beta-catenin, ERBB2, FOXL2, GNAS, KIT, KRAS, NRAS, PIK3CA, PTEN, and P53. These mutations warrant extensive investigation to enhance the understanding of carcinogenesis and identify potential drug targets. The utility of 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 Human Ovarian Cancer qBiomarker Somatic Mutation PCR Array, with its comprehensive content coverage, is designed for studying mutations in the context of ovarian cancer and has the potential for discovery and verification of drug target biomarkers for this cancer type and other cancer types in which these mutations have been identified. This array includes 83 DNA sequence mutation assays designed to detect the most frequent, functionally verified, and biologically significant mutations in human ovarian cancer. These mutations were chosen from curated, comprehensive somatic mutation databases and peer-reviewed scientific literature, and represent the most frequently recurring somatic mutations compiled from over 2600 ovarian cancer samples. The simplicity of the product format and operating procedure allows routine somatic mutation profiling in any research laboratory with access to a real-time PCR instrument.

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	BRAF	476	c.1799T>A	p.V600E	SMPH001828A
A02	CTNNB1	5671	c.101G>A	p.G34E	SMPH003960A
A03	CTNNB1	5670	c.101G>T	p.G34V	SMPH003948A
A04	CTNNB1	5679	c.110C>G	p.S37C	SMPH003962A
A05	CTNNB1	5662	c.110C>T	p.S37F	SMPH003946A
A06	CTNNB1	5664	c.121A>G	p.T41A	SMPH003950A
A07	CTNNB1	5661	c.94G>T	p.D32Y	SMPH003956A
A08	CTNNB1	5681	c.95A>G	p.D32G	SMPH003973A
A09	CTNNB1	5677	c.98C>G	p.S33C	SMPH003963A
A10	CTNNB1	5669	c.98C>T	p.S33F	SMPH003964A
A11	ERBB2	682	c. 2322_2323insGCATAC GTGATG	p.M774_A775insAYVM	SMPH005128A
A12	ERBB2	18609	c.2327G>T	p.G776V	SMPH005157A
B01	FOXL2	33661	c.402C>G	p.C134W	SMPH005818A
B02	GNAS	27887	c.601C>T	p.R201C	SMPH006160A
B03	KIT	1311	c.2446G>C	p.D816H	SMPH007137A
B04	KIT	1310	c.2446G>T	p.D816Y	SMPH007144A
B05	KIT	1314	c.2447A>T	p.D816V	SMPH007122A
B06	KRAS	517	c.34G>A	p.G12S	SMPH007533A
B07	KRAS	518	c.34G>C	p.G12R	SMPH007534A
B08	KRAS	516	c.34G>T	p.G12C	SMPH007535A
B09	KRAS	521	c.35G>A	p.G12D	SMPH007531A
B10	KRAS	522	c.35G>C	p.G12A	SMPH007536A
B11	KRAS	520	c.35G>T	p.G12V	SMPH007537A
B12	KRAS	527	c.37G>T	p.G13C	SMPH007541A
C01	KRAS	532	c.38G>A	p.G13D	SMPH007538A
C02	KRAS	533	c.38G>C	p.G13A	SMPH007542A
C03	KRAS	534	c.38G>T	p.G13V	SMPH007545A
C04	NRAS	564	c.35G>A	p.G12D	SMPH010071A
C05	PIK3CA	760	c.1624G>A	p.E542K	SMPH010629A
C06	PIK3CA	763	c.1633G>A	p.E545K	SMPH010627A
C07	PIK3CA	12458	c.1634A>C	p.E545A	SMPH010634A
C08	PIK3CA	766	c.1636C>A	p.Q546K	SMPH010628A
C09	PIK3CA	21451	c.3075C>T	p.T1025T	SMPH010651A
C10	PIK3CA	775	c.3140A>G	p.H1047R	SMPH010630A
C11	PIK3CA	776	c.3140A>T	p.H1047L	SMPH010632A
C12	PTEN	5219	c.388C>G	p.R130G	SMPH011480A
D01	PTEN	5152	c.388C>T	p.R130*	SMPH011473A
D02	PTEN	4986	c.741_742insA	p.P248fs*5	SMPH011468A
D03	TP53	11582	c.395A>G	p.K132R	SMPH015094A
D04	TP53	10801	c.404G>A	p.C135Y	SMPH015154A
D05	TP53	11166	c.406C>T	p.Q136*	SMPH014989A
D06	TP53	43708	c.422G>A	p.C141Y	SMPH034537A
D07	TP53	10905	c.451C>T	p.P151S	SMPH015043A
D08	TP53	10808	c.488A>G	p.Y163C	SMPH014931A
D09	TP53	11084	c.517G>A	p.V173M	SMPH015105A
D10	TP53	10648	c.524G>A	p.R175H	SMPH014921A
D11	TP53	10645	c.527G>T	p.C176F	SMPH014960A
D12	TP53	10768	c.535C>T	p.H179Y	SMPH015208A
E01	TP53	10889	c.536A>G	p.H179R	SMPH015072A
E02	TP53	10742	c.578A>G	p.H193R	SMPH014975A
E03	TP53	11066	c.578A>T	p.H193L	SMPH014968A
E04	TP53	44571	c.581T>G	p.L194R	SMPH034553A
E05	TP53	10647	c.404G>T	p.C135F	SMPH014911A
E06	TP53	11089	c.584T>C	p.I195T	SMPH015069A
E07	TP53	10705	c.586C>T	p.R196*	SMPH014949A
E08	TP53	43947	c.614A>G	p.Y205C	SMPH034421A
E09	TP53	10654	c.637C>T	p.R213*	SMPH014928A
E10	TP53	43650	c.638G>T	p.R213L	SMPH034475A
E11	TP53	43687	c.641A>G	p.H214R	SMPH034420A
E12	TP53	10667	c.646G>A	p.V216M	SMPH015006A
F01	TP53	10758	c.659A>G	p.Y220C	SMPH014964A
F02	TP53	10725	c.701A>G	p.Y234C	SMPH014944A
F03	TP53	10731	c.707A>G	p.Y236C	SMPH015023A
F04	TP53	10834	c.711G>A	p.M237I	SMPH015199A
F05	TP53	11063	c.711G>T	p.M237I	SMPH014988A
F06	TP53	11059	c.713G>A	p.C238Y	SMPH015089A
F07	TP53	10812	c.722C>T	p.S241F	SMPH014924A
F08	TP53	10646	c.725G>A	p.C242Y	SMPH015220A
F09	TP53	10810	c.725G>T	p.C242F	SMPH015002A
F10	TP53	6932	c.733G>A	p.G245S	SMPH014940A

Position	Gene	COSMIC ID	Nucleotide Change	Amino Acid Change	Assay Catalog #
F11	TP53	43606	c.734G>A	p.G245D	SMPH034441A
F12	TP53	11196	c.734G>T	p.G245V	SMPH014986A
G01	TP53	10727	c.438G>A	p.W146*	SMPH015140A
G02	TP53	10656	c.742C>T	p.R248W	SMPH014929A
G03	TP53	10662	c.743G>A	p.R248Q	SMPH014902A
G04	TP53	10817	c.747G>T	p.R249S	SMPH015066A
G05	TP53	11073	c.1024C>T	p.R342*	SMPH015065A
G06	TP53	10891	c.814G>A	p.V272M	SMPH014987A
G07	TP53	10659	c.817C>T	p.R273C	SMPH014907A
G08	TP53	10660	c.818G>A	p.R273H	SMPH014913A
G09	TP53	10779	c.818G>T	p.R273L	SMPH015005A
G10	TP53	10704	c.844C>T	p.R282W	SMPH014941A
G11	TP53	10856	c.880G>T	p.E294*	SMPH015028A
G12	BRAF	99000006	copy number	copy number	SMPH017168A
H01	CTNNB1	99000042	copy number	copy number	SMPH017204A
H02	ERBB2	99000016	copy number	copy number	SMPH017178A
H03	FOX L2	99000061	copy number	copy number	SMPH017223A
H04	GNAS	99000039	copy number	copy number	SMPH017201A
H05	KIT	99000021	copy number	copy number	SMPH017183A
H06	KRAS	99000008	copy number	copy number	SMPH017170A
H07	NRAS	99000010	copy number	copy number	SMPH017172A
H08	PIK3CA	99000012	copy number	copy number	SMPH017174A
H09	PTEN	99000013	copy number	copy number	SMPH017175A
H10	TP53	99000041	copy number	copy number	SMPH017203A
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	BRAF	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	ERBB2	ERBB2
B	FOXL2	GNAS	KIT	KIT	KIT	KRAS	KRAS	KRAS	KRAS	KRAS	KRAS	KRAS
C	KRAS	KRAS	KRAS	NRAS	PIK3CA	PIK3CA	PIK3CA	PIK3CA	PIK3CA	PIK3CA	PIK3CA	PTEN
D	PTEN	PTEN	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53
E	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53
F	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53
G	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	BRAF
H	CTNNB1	ERBB2	FOXL2	GNAS	KIT	KRAS	NRAS	PIK3CA	PTEN	TP53	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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