

qBiomarker Somatic Mutation PCR Array

Human Pancreatic Cancer

Cat. no. 337021 SMH-035A

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 Pancreatic Cancer qBiomarker Somatic Mutation PCR Array is a translational research tool that allows rapid, accurate, and comprehensive profiling of the somatic mutations in human pancreatic cancer samples in the following key genes: APC, BRAF, CDKN2A, CTNNB1, KRAS, NRAS, PIK3CA, SMAD4, and P53. These mutations warrant extensive investigation to enhance the understanding of carcinogenesis and identify potential drug targets. Numerous research studies have demonstrated the utility of individual and multiple somatic mutation status information in identifying key signaling transduction disruptions. For example, the mutation status of the EGFR and KRAS genes can predict the physiological response to certain drugs targeting these molecules. The Human Pancreatic Cancer qBiomarker Somatic Mutation PCR Array, with its comprehensive content coverage, is designed for studying mutations in the context of pancreatic cancer and has the potential for discovery and development of effective biomarkers for this cancer type and other cancer types in which these mutations were identified. This array includes 38 DNA sequence mutation assays designed to detect the most frequent, functionally verified, and biologically significant mutations in human pancreatic 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 3800 pancreatic cancer samples. Each 96-well array allows profiling mutation status of 2 samples, while each 384-well format array allows mutation profiling of 8 samples. The simplicity of the product format and operating procedure enables routine somatic mutation profiling in any research laboratory with access to real-time PCR instruments.

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	18561	c.4666_4667insA	p.T1556fs*3	SMPH000579A
A02	BRAF	476	c.1799T>A	p.V600E	SMPH001828A
A03	CDKN2A	12473	c.172C>T	p.R58*	SMPH002668A
A04	CDKN2A	12475	c.238C>T	p.R80*	SMPH002667A
A05	CDKN2A	12481	c.329G>A	p.W110*	SMPH002702A
A06	CTNNB1	5686	c.100G>A	p.G34R	SMPH003974A
A07	CTNNB1	5670	c.101G>T	p.G34V	SMPH003948A
A08	CTNNB1	5679	c.110C>G	p.S37C	SMPH003962A
A09	CTNNB1	5662	c.110C>T	p.S37F	SMPH003946A
A10	CTNNB1	5672	c.94G>A	p.D32N	SMPH003957A
A11	CTNNB1	5661	c.94G>T	p.D32Y	SMPH003956A
A12	CTNNB1	5681	c.95A>G	p.D32G	SMPH003973A
B01	CTNNB1	5682	c.97T>C	p.S33P	SMPH003969A
B02	CTNNB1	5677	c.98C>G	p.S33C	SMPH003963A
B03	KRAS	554	c.183A>C	p.Q61H	SMPH007540A
B04	KRAS	517	c.34G>A	p.G12S	SMPH007533A
B05	KRAS	518	c.34G>C	p.G12R	SMPH007534A
B06	KRAS	516	c.34G>T	p.G12C	SMPH007535A
B07	KRAS	521	c.35G>A	p.G12D	SMPH007531A
B08	KRAS	522	c.35G>C	p.G12A	SMPH007536A
B09	KRAS	520	c.35G>T	p.G12V	SMPH007537A
B10	KRAS	528	c.37G>A	p.G13S	SMPH007543A
B11	KRAS	527	c.37G>T	p.G13C	SMPH007541A
B12	KRAS	532	c.38G>A	p.G13D	SMPH007538A
C01	NRAS	580	c.181C>A	p.Q61K	SMPH010073A
C02	NRAS	584	c.182A>G	p.Q61R	SMPH010069A
C03	PIK3CA	21463	c.1654T>G	p.W552G	SMPH010653A
C04	PIK3CA	21464	c.3044C>T	p.S1015F	SMPH010654A
C05	PIK3CA	775	c.3140A>G	p.H1047R	SMPH010630A
C06	SMAD4	14057	c.733C>T	p.Q245*	SMPH013685A
C07	TP53	10889	c.536A>G	p.H179R	SMPH015072A
C08	TP53	43650	c.638G>T	p.R213L	SMPH034475A
C09	TP53	10758	c.659A>G	p.Y220C	SMPH014964A
C10	TP53	10656	c.742C>T	p.R248W	SMPH014929A
C11	TP53	10662	c.743G>A	p.R248Q	SMPH014902A
C12	TP53	10659	c.817C>T	p.R273C	SMPH014907A
D01	TP53	10660	c.818G>A	p.R273H	SMPH014913A
D02	TP53	10704	c.844C>T	p.R282W	SMPH014941A
D03	APC	99000030	copy number	copy number	SMPH017192A
D04	BRAF	99000006	copy number	copy number	SMPH017168A
D05	CDKN2A	99000032	copy number	copy number	SMPH017194A
D06	CTNNB1	99000042	copy number	copy number	SMPH017204A
D07	KRAS	99000008	copy number	copy number	SMPH017170A
D08	NRAS	99000010	copy number	copy number	SMPH017172A
D09	PIK3CA	99000012	copy number	copy number	SMPH017174A
D10	SMAD4	99000052	copy number	copy number	SMPH017214A
D11	TP53	99000041	copy number	copy number	SMPH017203A
D12	SMPC	99000017	positive PCR control	positive PCR control	SMPH017179A
E01	APC	18561	c.4666_4667insA	p.T1556fs*3	SMPH000579A
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E12	CTNNB1	5681	c.95A>G	p.D32G	SMPH003973A
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H01	TP53	10660	c.818G>A	p.R273H	SMPH014913A
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H04	BRAF	99000006	copy number	copy number	SMPH017168A
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H06	CTNNB1	99000042	copy number	copy number	SMPH017204A
H07	KRAS	99000008	copy number	copy number	SMPH017170A
H08	NRAS	99000010	copy number	copy number	SMPH017172A
H09	PIK3CA	99000012	copy number	copy number	SMPH017174A
H10	SMAD4	99000052	copy number	copy number	SMPH017214A
H11	TP53	99000041	copy number	copy number	SMPH017203A
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	BRAF	CDKN2A	CDKN2A	CDKN2A	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1
B	CTNNB1	CTNNB1	KRAS	KRAS	KRAS	KRAS	KRAS	KRAS	KRAS	KRAS	KRAS	KRAS
C	NRAS	NRAS	PIK3CA	PIK3CA	PIK3CA	SMAD4	TP53	TP53	TP53	TP53	TP53	TP53
D	TP53	TP53	APC	BRAF	CDKN2A	CTNNB1	KRAS	NRAS	PIK3CA	SMAD4	TP53	SMPC
E	APC	BRAF	CDKN2A	CDKN2A	CDKN2A	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1	CTNNB1
F	CTNNB1	CTNNB1	KRAS	KRAS	KRAS	KRAS	KRAS	KRAS	KRAS	KRAS	KRAS	KRAS
G	NRAS	NRAS	PIK3CA	PIK3CA	PIK3CA	SMAD4	TP53	TP53	TP53	TP53	TP53	TP53
H	TP53	TP53	APC	BRAF	CDKN2A	CTNNB1	KRAS	NRAS	PIK3CA	SMAD4	TP53	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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