

qBiomarker Somatic Mutation PCR Array

Human STK11 Gene

Cat. no. 337021 SMH-811AA

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 STK11 Gene qBiomarker Somatic Mutation PCR Array allows the detection of 20 unique mutations in the human STK11 gene. STK11, a tumor suppressor gene and a serine/threonine kinase, regulates cell metabolism, homeostasis, and polarity via AMPK signaling. Previous scientific reports have shown a strong association between mutations in the STK11 gene and cancers of the breast, cervix, intestine, lung, pancreas, and skin. The STK11 mutations found in cancer samples include a roughly equal number of missense point mutations and truncations in the protein kinase domain. The DNA sequence mutation assays in the array detect the most frequent mutations in STK11 compiled from over 300 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 4 samples, while the 384-well array format profiles 16 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 STK11 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	STK11	12925	c.109C>T	p.Q37*	SMPH014255A
A02	STK11	21360	c.1062C>G	p.F354L	SMPH014253A
A03	STK11	20943	c.508C>T	p.Q170*	SMPH014238A
A04	STK11	20944	c.580G>T	p.D194Y	SMPH014239A
A05	STK11	12924	c.842delC	p.P281fs*6	SMPH014248A
A06	STK11	21355	c.842C>T	p.P281L	SMPH014254A
A07	STK11	20857	c.787_790delTTGT	p.F264fs*22	SMPH014329A
A08	STK11	27322	c.180delC	p.Y60fs*1	SMPH014282A
A09	STK11	25847	c.580G>A	p.D194N	SMPH014318A
A10	STK11	29005	c.816C>T	p.Y272Y	SMPH014348A
A11	STK11	18652	c.996G>A	p.W332*	SMPH014333A
A12	STK11	13480	c.658C>T	p.Q220*	SMPH014357A
B01	STK11	21212	c.169delG	p.E57fs*7	SMPH014332A
B02	STK11	21384	c.196G>A	p.V66M	SMPH014263A
B03	STK11	21354	c.511G>A	p.G171S	SMPH014252A
B04	STK11	20871	c.837delC	p.P281fs*6	SMPH014256A
B05	STK11	29468	c.910C>T	p.R304W	SMPH014304A
B06	STK11	21378	c.96C>G	p.T32T	SMPH014257A
B07	STK11	20880	c.650delC	p.P217fs*70	SMPH014237A
B08	STK11	25229	c.595G>T	p.E199*	SMPH014342A
B09	STK11	99000038	copy number	copy number	SMPH017200A
B10	STK11	99000038	copy number	copy number	SMPH017200A
B11	SMPC	99000017	positive PCR control	positive PCR control	SMPH017179A
B12	SMPC	99000017	positive PCR control	positive PCR control	SMPH017179A
C01	STK11	12925	c.109C>T	p.Q37*	SMPH014255A
C02	STK11	21360	c.1062C>G	p.F354L	SMPH014253A
C03	STK11	20943	c.508C>T	p.Q170*	SMPH014238A
C04	STK11	20944	c.580G>T	p.D194Y	SMPH014239A
C05	STK11	12924	c.842delC	p.P281fs*6	SMPH014248A
C06	STK11	21355	c.842C>T	p.P281L	SMPH014254A
C07	STK11	20857	c.787_790delTTGT	p.F264fs*22	SMPH014329A
C08	STK11	27322	c.180delC	p.Y60fs*1	SMPH014282A
C09	STK11	25847	c.580G>A	p.D194N	SMPH014318A
C10	STK11	29005	c.816C>T	p.Y272Y	SMPH014348A
C11	STK11	18652	c.996G>A	p.W332*	SMPH014333A
C12	STK11	13480	c.658C>T	p.Q220*	SMPH014357A
D01	STK11	21212	c.169delG	p.E57fs*7	SMPH014332A
D02	STK11	21384	c.196G>A	p.V66M	SMPH014263A
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D04	STK11	20871	c.837delC	p.P281fs*6	SMPH014256A
D05	STK11	29468	c.910C>T	p.R304W	SMPH014304A
D06	STK11	21378	c.96C>G	p.T32T	SMPH014257A
D07	STK11	20880	c.650delC	p.P217fs*70	SMPH014237A
D08	STK11	25229	c.595G>T	p.E199*	SMPH014342A
D09	STK11	99000038	copy number	copy number	SMPH017200A
D10	STK11	99000038	copy number	copy number	SMPH017200A
D11	SMPC	99000017	positive PCR control	positive PCR control	SMPH017179A
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E01	STK11	12925	c.109C>T	p.Q37*	SMPH014255A
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H03	STK11	21354	c.511G>A	p.G171S	SMPH014252A
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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	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11
B	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	SMPC	SMPC
C	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11
D	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	SMPC	SMPC
E	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11
F	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	SMPC	SMPC
G	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11
H	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	STK11	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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