

qBiomarker Somatic Mutation PCR Array

Human TP53 Gene

Cat. no. 337021 SMH-812AA

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 TP53 Gene qBiomarker Somatic Mutation PCR Array allows the detection of 92 unique mutations in the human TP53 gene. TP53, a tumor suppressor gene and transcription factor, responds to diverse cellular stresses to regulate target genes that induce apoptosis, cell cycle arrest, DNA repair, genomic stability, and senescence. Previous scientific reports have shown that more than half of all cancers contain at least one mutation in the TP53 gene. The TP53 mutations found in cancer samples are predominately missense point mutations in the DNA-binding domain that disrupt either contact with DNA or the protein's structure. The DNA sequence mutation assays in the array detect the most frequent mutations in TP53 compiled from over 22,000 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 1 sample, while the 384-well array format profiles 4 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 TP53 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	TP53	10648	c.524G>A	p.R175H	SMPH014921A
A02	TP53	10662	c.743G>A	p.R248Q	SMPH014902A
A03	TP53	10660	c.818G>A	p.R273H	SMPH014913A
A04	TP53	10656	c.742C>T	p.R248W	SMPH014929A
A05	TP53	10659	c.817C>T	p.R273C	SMPH014907A
A06	TP53	10704	c.844C>T	p.R282W	SMPH014941A
A07	TP53	10817	c.747G>T	p.R249S	SMPH015066A
A08	TP53	6932	c.733G>A	p.G245S	SMPH014940A
A09	TP53	10758	c.659A>G	p.Y220C	SMPH014964A
A10	TP53	10654	c.637C>T	p.R213*	SMPH014928A
A11	TP53	10670	c.469G>T	p.V157F	SMPH014984A
A12	TP53	10705	c.586C>T	p.R196*	SMPH014949A
B01	TP53	10645	c.527G>T	p.C176F	SMPH014960A
B02	TP53	10889	c.536A>G	p.H179R	SMPH015072A
B03	TP53	10808	c.488A>G	p.Y163C	SMPH014931A
B04	TP53	10722	c.853G>A	p.E285K	SMPH014937A
B05	TP53	43606	c.734G>A	p.G245D	SMPH034441A
B06	TP53	10779	c.818G>T	p.R273L	SMPH015005A
B07	TP53	10725	c.701A>G	p.Y234C	SMPH014944A
B08	TP53	10812	c.722C>T	p.S241F	SMPH014924A
B09	TP53	10768	c.535C>T	p.H179Y	SMPH015208A
B10	TP53	10742	c.578A>G	p.H193R	SMPH014975A
B11	TP53	10891	c.814G>A	p.V272M	SMPH014987A
B12	TP53	10733	c.574C>T	p.Q192*	SMPH015161A
C01	TP53	43708	c.422G>A	p.C141Y	SMPH034537A
C02	TP53	10810	c.725G>T	p.C242F	SMPH015002A
C03	TP53	6549	c.743G>T	p.R248L	SMPH015015A
C04	TP53	10905	c.451C>T	p.P151S	SMPH015043A
C05	TP53	11089	c.584T>C	p.I195T	SMPH015069A
C06	TP53	10834	c.711G>A	p.M237I	SMPH015199A
C07	TP53	10790	c.455C>T	p.P152L	SMPH014958A
C08	TP53	10690	c.473G>A	p.R158H	SMPH014957A
C09	TP53	43947	c.614A>G	p.Y205C	SMPH034421A
C10	TP53	10724	c.839G>C	p.R280T	SMPH014901A
C11	TP53	10687	c.527G>A	p.C176Y	SMPH015119A
C12	TP53	10863	c.833C>T	p.P278L	SMPH015086A
D01	TP53	10714	c.473G>T	p.R158L	SMPH015138A
D02	TP53	11196	c.734G>T	p.G245V	SMPH014986A
D03	TP53	10801	c.404G>A	p.C135Y	SMPH015154A
D04	TP53	10726	c.856G>A	p.E286K	SMPH015084A
D05	TP53	10667	c.646G>A	p.V216M	SMPH015006A
D06	TP53	11059	c.713G>A	p.C238Y	SMPH015089A
D07	TP53	11081	c.733G>T	p.G245C	SMPH014979A
D08	TP53	10939	c.832C>T	p.P278S	SMPH014915A
D09	TP53	11073	c.1024C>T	p.R342*	SMPH015065A
D10	TP53	10893	c.824G>A	p.C275Y	SMPH015022A
D11	TP53	10731	c.707A>G	p.Y236C	SMPH015023A
D12	TP53	10739	c.481G>A	p.A161T	SMPH015187A
E01	TP53	43687	c.641A>G	p.H214R	SMPH034420A
E02	TP53	10867	c.797G>A	p.G266E	SMPH015003A
E03	TP53	10728	c.839G>A	p.R280K	SMPH015091A
E04	TP53	43559	c.517G>T	p.V173L	SMPH034455A
E05	TP53	11084	c.517G>A	p.V173M	SMPH015105A
E06	TP53	10646	c.725G>A	p.C242Y	SMPH015220A
E07	TP53	10988	c.772G>A	p.E258K	SMPH015102A
E08	TP53	6815	c.461G>T	p.G154V	SMPH015134A
E09	TP53	10941	c.730G>A	p.G244S	SMPH015100A
E10	TP53	10771	c.749C>T	p.P250L	SMPH015046A
E11	TP53	10856	c.880G>T	p.E294*	SMPH015028A
E12	TP53	10710	c.892G>T	p.E298*	SMPH015116A
F01	TP53	10647	c.404G>T	p.C135F	SMPH014911A
F02	TP53	11524	c.730G>T	p.G244C	SMPH015087A
F03	TP53	10883	c.731G>A	p.G244D	SMPH015004A
F04	TP53	11582	c.395A>G	p.K132R	SMPH015094A
F05	TP53	43635	c.536A>T	p.H179L	SMPH034554A
F06	TP53	10701	c.824G>T	p.C275F	SMPH014991A
F07	TP53	43609	c.437G>A	p.W146*	SMPH034567A
F08	TP53	10727	c.438G>A	p.W146*	SMPH015140A
F09	TP53	10958	c.797G>T	p.G266V	SMPH014997A
F10	TP53	11148	c.476C>T	p.A159V	SMPH014972A
F11	TP53	43714	c.836G>A	p.G279E	SMPH034710A
F12	TP53	11066	c.578A>T	p.H193L	SMPH014968A

Position	Gene	COSMIC ID	Nucleotide Change	Amino Acid Change	Assay Catalog #
G01	TP53	43778	c.713G>T	p.C238F	SMPH034467A
G02	TP53	10777	c.715A>G	p.N239D	SMPH015188A
G03	TP53	11245	c.430C>T	p.Q144*	SMPH014994A
G04	TP53	44571	c.581T>G	p.L194R	SMPH034553A
G05	TP53	10794	c.796G>A	p.G266R	SMPH015215A
G06	TP53	10672	c.577C>T	p.H193Y	SMPH015192A
G07	TP53	11063	c.711G>T	p.M237I	SMPH014988A
G08	TP53	43555	c.736A>G	p.M246V	SMPH034425A
G09	TP53	11166	c.406C>T	p.Q136*	SMPH014989A
G10	TP53	43650	c.638G>T	p.R213L	SMPH034475A
G11	TP53	43871	c.746G>T	p.R249M	SMPH034767A
G12	TP53	10887	c.833C>G	p.P278R	SMPH015178A
H01	TP53	10992	c.844C>G	p.R282G	SMPH015139A
H02	TP53	11476	c.452C>A	p.P151H	SMPH014969A
H03	TP53	10760	c.467G>C	p.R156P	SMPH015042A
H04	TP53	10709	c.722C>G	p.S241C	SMPH014933A
H05	TP53	10668	c.745A>G	p.R249G	SMPH014912A
H06	TP53	43896	c.818G>C	p.R273P	SMPH034456A
H07	TP53	43963	c.396G>C	p.K132N	SMPH035134A
H08	TP53	43629	c.745A>T	p.R249W	SMPH034698A
H09	TP53	99000041	copy number	copy number	SMPH017203A
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	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53
B	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53
C	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53
D	TP53	TP53	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	TP53
H	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	TP53	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.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

Trademarks: QIAGEN® (QIAGEN Group); Applied Biosystems®, ViiA™, StepOnePlus™, ROX™ (Applied Biosystems Corporation or its subsidiaries); Bio-Rad®, iCycler®, iQ™, MyiQ™, Chromo4™, CFX96™, DNA Engine Opticon®, CFX384™ (Bio-Rad Laboratories, Inc.); Stratagene®, Mx3005P®, Mx3000P®, Mx4000® (Stratagene); Eppendorf®, Mastercycler® (Eppendorf AG); Roche®, LightCycler® (Roche Group).

1066146 03/2011 © 2011 QIAGEN, all rights reserved.

www.qiagen.com

Australia ■ 1-800-243-800

Austria ■ 0800/281010

Belgium ■ 0800-79612

Brazil ■ 0800-557779

Canada ■ 800-572-9613

China ■ 8621-3865-3865

Denmark ■ 80-885945

Finland ■ 0800-914416

France ■ 01-60-920-930

Germany ■ 02103-29-12000

Hong Kong ■ 800 933 965

Ireland ■ 1800 555 049

Italy ■ 800-787980

Japan ■ 03-6890-7300

Korea (South) ■ 080-000-7145

Luxembourg ■ 8002 2076

Mexico ■ 01-800-7742-436

The Netherlands ■ 0800 0229592

Norway ■ 800-18859

Singapore ■ 1800-742-4368

Spain ■ 91-630-7050

Sweden ■ 020-790282

Switzerland ■ 055-254-22-11

UK ■ 01293-422-911

USA ■ 800-426-8157



Sample & Assay Technologies