qBiomarker Somatic Mutation PCR Array

Human Tumor Suppressor Panel 384HT

Cat. no. 337021 SMH-3004AA

For real-time PCR-based, pathway-focused, somatic mutation profiling

Format	For use with the following real-time cyclers
Format E, with ROX™	Applied Biosystems® models 7900HT (384-well block), ViiA™ 7 (384-well block); Bio-Rad CFX384™
Format G, with ROX	Roche® LightCycler® 480 (384-well block)

QIAGEN®

Sample & Assay Technologies

Description

The Human Tumor Suppressor Panel qBiomarker Somatic Mutation PCR Array is a translational research tool that allows rapid, comprehensive, and accurate profiling of the somatic mutation status of 36 key tumor suppressors of the human cancer genome. Genes covered on this panel are among the most frequently mutated in human cancers and therefore 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 Tumor Suppressor Panel qBiomarker Somatic Mutation PCR Array, with its comprehensive content coverage, is designed for the study of mutations in all major tumor suppressors and has the potential for discovery and verification of drug target biomarkers for a variety of human cancers. This array includes 346 DNA sequence mutation assays designed to detect the most frequent, functionally verified, and biologically significant mutations in human tumor suppressors. These mutations were chosen from curated, comprehensive somatic mutation databases and peer-reviewed scientific literature. The simplicity of the product format and operating procedure allows routine somatic mutation profiling in any research laboratory with access to real-time PCR instruments. Researchers with interest in in-depth mutation analysis for a specific pathway or disease are encouraged to explore relevant pathway- or disease-specific somatic mutation PCR arrays. Additional mutation assays (not included in this array) for the majority of the genes are also available.

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.

Array Table

Well	Gene Symbol	COSMIC ID	Nucleotide Change	Amino Acid Change	Assay Catalog #
A01	APC	18852	c.2626C>T	p.R876*	SMPH000580A
A02	APC	13125	c.3340C>T	p.R1114*	SMPH000586A
A03	APC	41617	c.3700_3700delA	p.S1234fs*31	SMPH018165A
A04	APC	18772	c.3856G>T	p.E1286*	SMPH000512A
A05	APC	19072	c.3871C>T	p.Q1291*	SMPH000513A
A06	APC	18960	c.3880C>T	p.Q1294*	SMPH000605A
A07	APC	13728	c.3907C>T	p.Q1303*	SMPH000560A
A08	APC	18760	c.3916G>T	p.E1306*	SMPH000731A
A09	APC	19203	c.3919_3920insA	p.I1307fs*8	SMPH001187A
A10	APC	18950	c.3920_3924delTAAAA	p.I1307fs*6	SMPH000728A
A11	APC	18764	c.3921_3925delAAAAG	p.E1309fs*4	SMPH000606A
A12	APC	13727	c.3922A>T	p.K1308*	SMPH000674A
A13	APC	18775	c.3925G>T	p.E1309*	SMPH000522A
A14	APC	13113	c.3927_3931delAAAGA	p.E1309fs*4	SMPH000523A
A15	APC	18942	c.3928A>T	p.K1310*	SMPH000636A
A16	APC	18817	c.3934G>T	p.G1312*	SMPH000565A
A17	APC	18777	c.3944C>A	p.S1315*	SMPH000783A
A18	APC	18700	c.3956delC	p.P1319fs*2	SMPH000576A
A19	APC	18702	c.3964G>T	p.E1322*	SMPH000685A
A20	APC	18859	c.3982C>T	p.Q1328*	SMPH000626A
A21	APC	13129	c.4012C>T	p.Q1338*	SMPH000527A
A22	APC	27097	c.4016G>C	p.G1339A	SMPH000635A
A23	APC	25814	c.4023T>G	p.S1341R	SMPH000594A
A24	APC	25826	c.4037C>G	p.S1346*	SMPH000607A
B01	APC	19048	c.4057G>T	p.E1353*	SMPH000528A
B02	APC	18779	c.4067C>G	p.S1356*	SMPH000603A
B03	APC	41623	c.4081_4082delCC	p.P1361fs*13	SMPH018172A
B04	APC	13121	c.4099C>T	p.Q1367*	SMPH000702A
B05	APC	19033	c.4110_4111delAA	p.P1372fs*2	SMPH001245A
B06	APC	19696	c.4117delC	p.P1373fs*42	SMPH001080A
B07	APC	41619	c.4118_4118delC	p.P1373fs*42	SMPH018167A
B08	APC	18862	c.4132C>T	p.Q1378*	SMPH000590A
B09	APC	18834	c.4135G>T	p.E1379*	SMPH000530A
B10	APC	18780	c.4192_4193delAG	p.R1399fs*9	SMPH000617A
B11	APC	19051	c.4199delC	p.S1400fs*1	SMPH000693A
B12	APC	19087	c.4216C>T	p.Q1406*	SMPH000690A
B13	APC	19088	c.4219_4220delAG	p.S1407fs*1	SMPH001089A
B14	APC	18822	c.4222G>T	p.E1408*	SMPH000609A
B15	APC	18948	c.4233delT	p.S1411fs*4	SMPH000571A
B16	APC	41631	c.4239_4240insA	p.V1414fs*9	SMPH018168A
B17	APC	18836	c.4285C>T	p.Q1429*	SMPH000549A
B18	APC	18704	c.4312delA	p.T1438fs*35	SMPH000715A
B19	APC	19594	c.4318delC	p.P1440fs*33	SMPH000982A
B20	APC	13127	c.4348C>T	p.R1450*	SMPH000539A
B21	APC	18825	c.4364delA	p.N1455fs*18	SMPH000854A

Well	Gene Symbol	COSMIC ID	Nucleotide Change	Amino Acid Change	Assay Catalog #
B22	APC	18873	c.4385_4386delAG	p.S1465fs*3	SMPH000704A
B23	APC	18883	c.4390G>T	p.E1464*	SMPH000931A
B24	APC	18838	c.4391_4394delAGAG	p.E1464fs*8	SMPH000811A
C01	APC	41626	c.4460_4469del10	p.T1487fs*17	SMPH018174A
C02	APC	18999	c.4461delT	p.L1488fs*19	SMPH000851A
C03	APC	41618	c.4463_4466delTATT	p.L1488fs*18	SMPH018166A
C04	APC	19054	c.4473delT	p.F1491fs*16	SMPH000577A
C05	APC	18786	c.4476delC	p.T1493fs*14	SMPH000633A
C06	APC	25817	c.4610C>A	p.T1537K	SMPH000597A
C07	APC	41616	c.4654G>T	p.E1552*	SMPH018164A
C08	APC	19695	c.4660_4661insA	p.T1556fs*3	SMPH001074A
C09	APC	18561	c.4666_4667insA	p.T1556fs*3	SMPH000579A
C10	APC	18978	c.4667_4668insC	p.I1557fs*2	SMPH000670A
C11	APC	13123	c.4729G>T	p.E1577*	SMPH001200A
C12	APC	41620	c.4731_4734delATGT	p.C1578fs*71	SMPH018169A
C13	APC	13134	c.637C>T	p.R213*	SMPH000782A
C14	APC	19679	c.847C>T	p.R283*	SMPH000551A
C15	APC	13862	c.904C>T	p.R302*	SMPH000669A
C16	ATM	21826	c.2572T>C	p.F858L	SMPH001498A
C17	ATM	12951	c.7325A>C	p.Q2442P	SMPH001601A
C18	ATM	20404	c.7328G>A	p.R2443Q	SMPH001538A
C19	ATM	21642	c.9022C>T	p.R3008C	SMPH001484A
C20	ATM	21626	c.9023G>A	p.R3008H	SMPH001470A
C21	ATM	21624	c.9139C>T	p.R3047*	SMPH001468A
C22	CBL	34055	c.1139T>C	p.L380P	SMPH002298A
C23	CBL	34057	c.1150T>C	p.C384R	SMPH002315A
C24	CBL	34066	c.1151G>A	p.C384Y	SMPH002313A
D01	CBL	34077	c.1259G>A	p.R420Q	SMPH002300A
D02	CDH1	19748	c.1108G>C	p.D370H	SMPH002524A
D03	CDH1	19761	c.1196_1199delCTGA	p.T399fs*17	SMPH002533A
D04	CDH1	19822	c.1901C>T	p.A634V	SMPH002591A
D05	CDH1	28934	c.240_241insGGTG	p.V82fs*13	SMPH002484A
D06	CDH1	19785	c.786_794CACCCAGGA>T	p.T263fs*3	SMPH002457A
D07	CDKN2A	13653	c.128G>T	p.S43I	SMPH002892A
D08	CDKN2A	12743	c.143C>T	p.P48L	SMPH002676A
D09	CDKN2A	13252	c.170C>T	p.A57V	SMPH002670A
D10	CDKN2A	12473	c.172C>T	p.R58*	SMPH002668A
D11	CDKN2A	13604	c.202G>A	p.A68T	SMPH002693A
D12	CDKN2A	12518	c.233_234delTC	p.L78fs*41	SMPH002694A
D13	CDKN2A	13524	c.237_238CC>TT	p.R80*	SMPH003024A
D14	CDKN2A	12475	c.238C>T	p.R80*	SMPH002667A
D15	CDKN2A	13224	c.242C>T	p.P81L	SMPH002745A
D16	CDKN2A	12504	c.247C>T	p.H83Y	SMPH002658A
D17	CDKN2A	13299	c.250G>T	p.D84Y	SMPH002831A
D18	CDKN2A	12484	c.322G>A	p.D108N	SMPH002965A
D19	CDKN2A	13520	c.322G>C	p.D108H	SMPH002744A
D20	CDKN2A	13489	c.322G>T	p.D108Y	SMPH002662A
D21	CDKN2A	12481	c.329G>A	p.W110*	SMPH002702A
D22	CDKN2A	12547	c.330G>A	p.W110*	SMPH002718A

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D23	CDKN2A	12476	c.341C>T	p.P114L	SMPH002680A
D24	CDKN2A	12479	c.358G>T	p.E120*	SMPH002706A
E01	CEBPA	18495	c.107delG	p.G36fs*124	SMPH003386A
E02	CEBPA	18161	c.247delC	p.Q83fs*77	SMPH003191A
E03	CEBPA	18160	c.63delC	p.S21fs*139	SMPH003264A
E04	CEBPA	18543	c.912_913insTTG	p.K304_Q305insL	SMPH003195A
E05	CEBPA	19396	c.927_928insGAG	p.E309_T310insE	SMPH003189A
E06	CEBPA	18466	c.936_937insCAG	p.Q312_K313insQ	SMPH003181A
E07	CEBPA	18447	c.937_938insAGA	p.K313_V314insK	SMPH003266A
E08	CEBPA	18104	c.937_939delAAG	p.K313del	SMPH003187A
E09	CEBPA	18099	c.939_940insAAG	p.K313_V314insK	SMPH003179A
E10	CEBPA	18470	c.949_950insGTC	p.E316_L317insV	SMPH003285A
E11	FBXW7	22973	c.1177C>T	p.R393*	SMPH005399A
E12	FBXW7	22932	c.1393C>T	p.R465C	SMPH005382A
E13	FBXW7	22965	c.1394G>A	p.R465H	SMPH005386A
E14	FBXW7	22974	c.1436G>A	p.R479Q	SMPH005404A
E15	FBXW7	22975	c.1513C>T	p.R505C	SMPH005417A
E16	FBXW7	22979	c.1745C>T	p.S582L	SMPH005396A
E17	FBXW7	22970	c.670C>T	p.R224*	SMPH005394A
E18	GNAQ	28759	c.625_626CA>TT	p.Q209L	SMPH006152A
E19	GNAQ	28758	c.626A>C	p.Q209P	SMPH006151A
E20	GNAQ	28757	c.626A>T	p.Q209L	SMPH006150A
E21	HNF1A	21471	c.617G>T	p.W206L	SMPH006413A
E22	HNF1A	21478	c.618G>T	p.W206C	SMPH006420A
E23	NF1	24486	c.910C>T	p.R304*	SMPH008947A
E24	NF2	22249	c.1009C>T	p.Q337*	SMPH009129A
F01	NF2	21990	c.1021C>T	p.R341*	SMPH009122A
F02	NF2	22250	c.1084C>T	p.Q362*	SMPH009130A
F03	NF2	22210	c.1198C>T	p.Q400*	SMPH009115A
F04	NF2	22209	c.1228C>T	p.Q410*	SMPH009114A
F05	NF2	23667	c.1396C>T	p.R466*	SMPH009308A
F06	NF2	21991	c.169C>T	p.R57*	SMPH009090A
F07	NF2	22240	c.634C>T	p.Q212*	SMPH009212A
F08	NF2	22454	c.655G>A	p.V219M	SMPH009289A
F09	NF2	22000	c.784C>T	p.R262*	SMPH009108A
F10	NPM1	20814	c.863_864insCAGA	p.W288fs*12	SMPH009963A
F11	NPM1	17571	c.863_864insCATG	p.W288fs*12	SMPH009953A
F12	NPM1	20806	c.863_864insCCGG	p.W288fs*12	SMPH009956A
F13	NPM1	17573	c.863_864insCCTG	p.W288fs*12	SMPH009954A
F14	NPM1	20815	c.863_864insTATG	p.W288fs*12	SMPH009964A
F15	NPM1	20813	c.863_864insTCGG	p.W288fs*12	SMPH009962A
F16	NPM1	17559	c.863_864insTCTG	p.W288fs*12	SMPH009952A
F17	PTCH1	14440	c.1093C>T	p.Q365*	SMPH011301A
F18	PTCH1	17472	c.1249C>T	p.Q417*	SMPH011228A
F19	PTCH1	17471	c.1682T>G	p.M561R	SMPH011431A
F20	PTCH1	26363	c.2446C>T	p.Q816*	SMPH011232A
F21	PTCH1	14446	c.3054G>A	p.W1018*	SMPH011296A
F22	PTEN	4936	c.1040_1041delTC	p.F347fs*13	SMPH012222A
F23	PTEN	5269	c.125T>G	p.L42R	SMPH012012A

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F24	PTEN	4929	c.17_18delAA	p.K6fs*4	SMPH011501A
G01	PTEN	5298	c.19G>T	p.E7*	SMPH011559A
G02	PTEN	4956	c.227_228delAT	p.Y76fs*1	SMPH011617A
G03	PTEN	5109	c.302T>C	p.I101T	SMPH011988A
G04	PTEN	5266	c.314G>T	p.C105F	SMPH011654A
G05	PTEN	23643	c.315T>G	p.C105W	SMPH011520A
G06	PTEN	5199	c.334C>G	p.L112V	SMPH011516A
G07	PTEN	5078	c.367C>T	p.H123Y	SMPH011588A
G08	PTEN	5092	c.385G>A	p.G129R	SMPH011491A
G09	PTEN	5219	c.388C>G	p.R130G	SMPH011480A
G10	PTEN	5152	c.388C>T	p.R130*	SMPH011473A
G11	PTEN	5817	c.389delG	p.R130fs*4	SMPH011514A
G12	PTEN	5033	c.389G>A	p.R130Q	SMPH011486A
G13	PTEN	5277	c.389G>C	p.R130P	SMPH011620A
G14	PTEN	5216	c.389G>T	p.R130L	SMPH011591A
G15	PTEN	5123	c.395G>A	p.G132D	SMPH011563A
G16	PTEN	5294	c.416T>G	p.L139*	SMPH011794A
G17	PTEN	5034	c.425G>A	p.R142Q	SMPH011490A
G18	PTEN	5080	c.451G>A	p.A151T	SMPH012265A
G19	PTEN	23653	c.476G>A	p.R159K	SMPH011487A
G20	PTEN	5847	c.491delA	p.K164fs*3	SMPH011505A
G21	PTEN	5091	c.493G>A	p.G165R	SMPH011583A
G22	PTEN	5089	c.517C>T	p.R173C	SMPH011475A
G23	PTEN	5039	c.518G>A	p.R173H	SMPH011472A
G24	PTEN	5150	c.640C>T	p.Q214*	SMPH011797A
H01	PTEN	5295	c.686C>G	p.S229*	SMPH011679A
H02	PTEN	5154	c.697C>T	p.R233*	SMPH011506A
H03	PTEN	5292	c.703G>T	p.E235*	SMPH011869A
H04	PTEN	5888	c.723_724insTT	p.E242fs*15	SMPH011734A
H05	PTEN	5159	c.733C>T	p.Q245*	SMPH011578A
H06	PTEN	5111	c.737C>T	p.P246L	SMPH011997A
H07	PTEN	4986	c.741_742insA	p.P248fs*5	SMPH011468A
H08	PTEN	5312	c.895G>T	p.E299*	SMPH011515A
H09	PTEN	4898	c.950_953delTACT	p.V317fs*3	SMPH011511A
H10	PTEN	4894	c.952_955delCTTA	p.L318fs*2	SMPH011686A
H11	PTEN	5008	c.955_956insA	p.T319fs*6	SMPH011510A
H12	PTEN	4958	c.955_958delACTT	p.T319fs*1	SMPH011550A
H13	PTEN	4896	c.956_959delCTTT	p.T319fs*24	SMPH011710A
H14	PTEN	4990	c.968_969insA	p.N323fs*2	SMPH011534A
H15	RB1	895	c.1363C>T	p.R455*	SMPH012679A
H16	RB1	887	c.1654C>T	p.R552*	SMPH012681A
H17	RB1	888	c.1666C>T	p.R556*	SMPH012648A
H18	RB1	861	c.1981C>T	p.R661W	SMPH012676A
H19	RB1	878	c.751C>T	p.R251*	SMPH012766A
H20	SMARCB1	29382	c.1143delG	p.A382fs*5	SMPH013869A
H21	SMARCB1	1057	c.1148delC	p.P383fs*3	SMPH013861A
H22	SMARCB1	1002	c.118C>T	p.R40*	SMPH013852A
H23	SMARCB1	991	c.141C>A	p.Y47*	SMPH013889A
H24	SMARCB1	24595	c.157C>T	p.R53*	SMPH013853A

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I01	SMARCB1	992	c.472C>T	p.R158*	SMPH013863A
I02	SMARCB1	993	c.601C>T	p.R201*	SMPH013867A
I03	STK11	21360	c.1062C>G	p.F354L	SMPH014253A
I04	STK11	12925	c.109C>T	p.Q37*	SMPH014255A
I05	STK11	21212	c.169delG	p.E57fs*7	SMPH014332A
I06	STK11	27322	c.180delC	p.Y60fs*1	SMPH014282A
I07	STK11	21384	c.196G>A	p.V66M	SMPH014263A
I08	STK11	20943	c.508C>T	p.Q170*	SMPH014238A
I09	STK11	21354	c.511G>A	p.G171S	SMPH014252A
I10	STK11	25847	c.580G>A	p.D194N	SMPH014318A
I11	STK11	20944	c.580G>T	p.D194Y	SMPH014239A
I12	STK11	20857	c.787_790delTTGT	p.F264fs*22	SMPH014329A
I13	STK11	29005	c.816C>T	p.Y272Y	SMPH014348A
I14	STK11	20871	c.837delC	p.P281fs*6	SMPH014256A
I15	STK11	21355	c.842C>T	p.P281L	SMPH014254A
I16	STK11	12924	c.842delC	p.P281fs*6	SMPH014248A
I17	STK11	29468	c.910C>T	p.R304W	SMPH014304A
I18	STK11	21378	c.96C>G	p.T32T	SMPH014257A
I19	STK11	18652	c.996G>A	p.W332*	SMPH014333A
I20	TET2	41644	c.1648C>T	p.R550*	SMPH033769A
I21	TP53	11073	c.1024C>T	p.R342*	SMPH015065A
I22	TP53	11582	c.395A>G	p.K132R	SMPH015094A
I23	TP53	43963	c.396G>C	p.K132N	SMPH035134A
I24	TP53	10801	c.404G>A	p.C135Y	SMPH015154A
J01	TP53	10647	c.404G>T	p.C135F	SMPH014911A
J02	TP53	11166	c.406C>T	p.Q136*	SMPH014989A
J03	TP53	43708	c.422G>A	p.C141Y	SMPH034537A
J04	TP53	11245	c.430C>T	p.Q144*	SMPH014994A
J05	TP53	43609	c.437G>A	p.W146*	SMPH034567A
J06	TP53	10727	c.438G>A	p.W146*	SMPH015140A
J07	TP53	10905	c.451C>T	p.P151S	SMPH015043A
J08	TP53	11476	c.452C>A	p.P151H	SMPH014969A
J09	TP53	10790	c.455C>T	p.P152L	SMPH014958A
J10	TP53	6815	c.461G>T	p.G154V	SMPH015134A
J11	TP53	10760	c.467G>C	p.R156P	SMPH015042A
J12	TP53	10670	c.469G>T	p.V157F	SMPH014984A
J13	TP53	10690	c.473G>A	p.R158H	SMPH014957A
J14	TP53	10714	c.473G>T	p.R158L	SMPH015138A
J15	TP53	11148	c.476C>T	p.A159V	SMPH014972A
J16	TP53	10739	c.481G>A	p.A161T	SMPH015187A
J17	TP53	10808	c.488A>G	p.Y163C	SMPH014931A
J18	TP53	11084	c.517G>A	p.V173M	SMPH015105A
J19	TP53	43559	c.517G>T	p.V173L	SMPH034455A
J20	TP53	10648	c.524G>A	p.R175H	SMPH014921A
J21	TP53	10687	c.527G>A	p.C176Y	SMPH015119A
J22	TP53	10645	c.527G>T	p.C176F	SMPH014960A
J23	TP53	10768	c.535C>T	p.H179Y	SMPH015208A
J24	TP53	10889	c.536A>G	p.H179R	SMPH015072A
K01	TP53	43635	c.536A>T	p.H179L	SMPH034554A

Well	Gene Symbol	COSMIC ID	Nucleotide Change	Amino Acid Change	Assay Catalog #
K02	TP53	10733	c.574C>T	p.Q192*	SMPH015161A
K03	TP53	10672	c.577C>T	p.H193Y	SMPH015192A
K04	TP53	10742	c.578A>G	p.H193R	SMPH014975A
K05	TP53	11066	c.578A>T	p.H193L	SMPH014968A
K06	TP53	44571	c.581T>G	p.L194R	SMPH034553A
K07	TP53	11089	c.584T>C	p.I195T	SMPH015069A
K08	TP53	10705	c.586C>T	p.R196*	SMPH014949A
K09	TP53	43947	c.614A>G	p.Y205C	SMPH034421A
K10	TP53	6482	c.625_626delAG	p.R209fs*6	SMPH015175A
K11	TP53	10654	c.637C>T	p.R213*	SMPH014928A
K12	TP53	43650	c.638G>T	p.R213L	SMPH034475A
K13	TP53	43687	c.641A>G	p.H214R	SMPH034420A
K14	TP53	10667	c.646G>A	p.V216M	SMPH015006A
K15	TP53	10758	c.659A>G	p.Y220C	SMPH014964A
K16	TP53	10725	c.701A>G	p.Y234C	SMPH014944A
K17	TP53	10731	c.707A>G	p.Y236C	SMPH015023A
K18	TP53	10834	c.711G>A	p.M237I	SMPH015199A
K19	TP53	11063	c.711G>T	p.M237I	SMPH014988A
K20	TP53	11059	c.713G>A	p.C238Y	SMPH015089A
K21	TP53	43778	c.713G>T	p.C238F	SMPH034467A
K22	TP53	10777	c.715A>G	p.N239D	SMPH015188A
K23	TP53	10709	c.722C>G	p.S241C	SMPH014933A
K24	TP53	10812	c.722C>T	p.S241F	SMPH014924A
L01	TP53	10646	c.725G>A	p.C242Y	SMPH015220A
L02	TP53	10810	c.725G>T	p.C242F	SMPH015002A
L03	TP53	10941	c.730G>A	p.G244S	SMPH015100A
L04	TP53	11524	c.730G>T	p.G244C	SMPH015087A
L05	TP53	10883	c.731G>A	p.G244D	SMPH015004A
L06	TP53	6932	c.733G>A	p.G245S	SMPH014940A
L07	TP53	11081	c.733G>T	p.G245C	SMPH014979A
L08	TP53	43606	c.734G>A	p.G245D	SMPH034441A
L09	TP53	11196	c.734G>T	p.G245V	SMPH014986A
L10	TP53	43555	c.736A>G	p.M246V	SMPH034425A
L11	TP53	10656	c.742C>T	p.R248W	SMPH014929A
L12	TP53	10662	c.743G>A	p.R248Q	SMPH014902A
L13	TP53	6549	c.743G>T	p.R248L	SMPH015015A
L14	TP53	10668	c.745A>G	p.R249G	SMPH014912A
L15	TP53	43629	c.745A>T	p.R249W	SMPH034698A
L16	TP53	43871	c.746G>T	p.R249M	SMPH034767A
L17	TP53	10817	c.747G>T	p.R249S	SMPH015066A
L18	TP53	10771	c.749C>T	p.P250L	SMPH015046A
L19	TP53	10988	c.772G>A	p.E258K	SMPH015102A
L20	TP53	10794	c.796G>A	p.G266R	SMPH015215A
L21	TP53	10867	c.797G>A	p.G266E	SMPH015003A
L22	TP53	10958	c.797G>T	p.G266V	SMPH014997A
L23	TP53	10719	c.811G>A	p.E271K	SMPH015048A
L24	TP53	10891	c.814G>A	p.V272M	SMPH014987A
M01	TP53	10659	c.817C>T	p.R273C	SMPH014907A
M02	TP53	10660	c.818G>A	p.R273H	SMPH014913A

Well	Gene Symbol	COSMIC ID	Nucleotide Change	Amino Acid Change	Assay Catalog #
M03	TP53	43896	c.818G>C	p.R273P	SMPH034456A
M04	TP53	10779	c.818G>T	p.R273L	SMPH015005A
M05	TP53	10893	c.824G>A	p.C275Y	SMPH015022A
M06	TP53	10701	c.824G>T	p.C275F	SMPH014991A
M07	TP53	10939	c.832C>T	p.P278S	SMPH014915A
M08	TP53	10887	c.833C>G	p.P278R	SMPH015178A
M09	TP53	10863	c.833C>T	p.P278L	SMPH015086A
M10	TP53	43714	c.836G>A	p.G279E	SMPH034710A
M11	TP53	10728	c.839G>A	p.R280K	SMPH015091A
M12	TP53	10724	c.839G>C	p.R280T	SMPH014901A
M13	TP53	43585	c.843_844CC>TT	p.R282W	SMPH034842A
M14	TP53	10992	c.844C>G	p.R282G	SMPH015139A
M15	TP53	10704	c.844C>T	p.R282W	SMPH014941A
M16	TP53	10722	c.853G>A	p.E285K	SMPH014937A
M17	TP53	10726	c.856G>A	p.E286K	SMPH015084A
M18	TP53	10856	c.880G>T	p.E294*	SMPH015028A
M19	TP53	10710	c.892G>T	p.E298*	SMPH015116A
M20	TP53	11066	c.578A>T	p.H193L	SMPH014968A
M21	TSHR	26449	c.1358T>C	p.M453T	SMPH015424A
M22	TSHR	26450	c.1456A>T	p.I486F	SMPH015425A
M23	TSHR	26448	c.1535T>A	p.L512Q	SMPH015423A
M24	TSHR	26484	c.1535T>G	p.L512R	SMPH015437A
N01	TSHR	26451	c.1703T>C	p.I568T	SMPH015426A
N02	TSHR	26415	c.1856A>G	p.D619G	SMPH015411A
N03	TSHR	26416	c.1867G>T	p.A623S	SMPH015412A
N04	TSHR	26417	c.1868C>T	p.A623V	SMPH015413A
N05	TSHR	26453	c.1887G>C	p.L629F	SMPH015428A
N06	TSHR	26422	c.1887G>T	p.L629F	SMPH015420A
N07	TSHR	26423	c.1888A>C	p.I630L	SMPH015417A
N08	TSHR	26418	c.1895C>T	p.T632I	SMPH015414A
N09	TSHR	26420	c.1897G>C	p.D633H	SMPH015416A
N10	TSHR	26419	c.1897G>T	p.D633Y	SMPH015415A
N11	TSHR	26477	c.1899C>A	p.D633E	SMPH015430A
N12	VHL	14290	c.240T>A	p.S80R	SMPH015875A
N13	VHL	17859	c.254T>C	p.L85P	SMPH016010A
N14	VHL	14305	c.266T>A	p.L89H	SMPH016097A
N15	VHL	17658	c.286C>T	p.Q96*	SMPH016181A
N16	VHL	14407	c.388G>C	p.V130L	SMPH015927A
N17	VHL	17735	c.444delT	p.F148fs*11	SMPH015969A
N18	WT1	21397	c.1168C>T	p.R390*	SMPH016744A
N19	WT1	21418	c.906_907insT	p.V303fs*14	SMPH016762A
N20	WT1	27307	c.938C>A	p.S313*	SMPH016803A
N21	WT1	21392	c.940_941insTCGG	p.A314fs*4	SMPH016740A
N22	APC	N/A	copy number	copy number	SMPH017192A
N23	ATM	N/A	copy number	copy number	SMPH017193A
N24	CBL	N/A	copy number	copy number	SMPH017212A
O01	CDH1	N/A	copy number	copy number	SMPH017210A
O02	CDKN2A	N/A	copy number	copy number	SMPH017194A
O03	CEBPA	N/A	copy number	copy number	SMPH017211A

Well	Gene Symbol	COSMIC ID	Nucleotide Change	Amino Acid Change	Assay Catalog #
O04	FBXW7	N/A	copy number	copy number	SMPH017225A
O05	GNAQ	N/A	copy number	copy number	SMPH017206A
O06	HNF1A	N/A	copy number	copy number	SMPH017202A
O07	NF1	N/A	copy number	copy number	SMPH017189A
O08	NF2	N/A	copy number	copy number	SMPH017197A
O09	NPM1	N/A	copy number	copy number	SMPH017232A
O10	PTCH1	N/A	copy number	copy number	SMPH017196A
O11	PTEN	N/A	copy number	copy number	SMPH017175A
O12	RB1	N/A	copy number	copy number	SMPH017198A
O13	SMARCB1	N/A	copy number	copy number	SMPH017208A
O14	STK11	N/A	copy number	copy number	SMPH017200A
O15	TET2	N/A	copy number	copy number	SMPH017231A
O16	TP53	N/A	copy number	copy number	SMPH017203A
O17	TSHR	N/A	copy number	copy number	SMPH017199A
O18	VHL	N/A	copy number	copy number	SMPH017186A
O19	WT1	N/A	copy number	copy number	SMPH017224A
O20	SMPC	N/A	positive PCR control	positive PCR control	SMPH017179A
O21	SMPC	N/A	positive PCR control	positive PCR control	SMPH017179A
O22	Blank	N/A	Blank	Blank	SMPH038678A
O23	Blank	N/A	Blank	Blank	SMPH038678A
O24	Blank	N/A	Blank	Blank	SMPH038678A
P01	Blank	N/A	Blank	Blank	SMPH038678A
P02	Blank	N/A	Blank	Blank	SMPH038678A
P03	Blank	N/A	Blank	Blank	SMPH038678A
P04	Blank	N/A	Blank	Blank	SMPH038678A
P05	Blank	N/A	Blank	Blank	SMPH038678A
P06	Blank	N/A	Blank	Blank	SMPH038678A
P07	Blank	N/A	Blank	Blank	SMPH038678A
P08	Blank	N/A	Blank	Blank	SMPH038678A
P09	Blank	N/A	Blank	Blank	SMPH038678A
P10	Blank	N/A	Blank	Blank	SMPH038678A
P11	Blank	N/A	Blank	Blank	SMPH038678A
P12	Blank	N/A	Blank	Blank	SMPH038678A
P13	Blank	N/A	Blank	Blank	SMPH038678A
P14	Blank	N/A	Blank	Blank	SMPH038678A
P15	Blank	N/A	Blank	Blank	SMPH038678A
P16	Blank	N/A	Blank	Blank	SMPH038678A
P17	Blank	N/A	Blank	Blank	SMPH038678A
P18	Blank	N/A	Blank	Blank	SMPH038678A
P19	Blank	N/A	Blank	Blank	SMPH038678A
P20	Blank	N/A	Blank	Blank	SMPH038678A
P21	Blank	N/A	Blank	Blank	SMPH038678A
P22	Blank	N/A	Blank	Blank	SMPH038678A
P23	Blank	N/A	Blank	Blank	SMPH038678A
P24	Blank	N/A	Blank	Blank	SMPH038678A

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