

qBiomarker Somatic Mutation PCR Array

Human EGFR Gene

Cat. no. 337021 SMH-804AA

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 EGFR Gene qBiomarker Somatic Mutation PCR Array allows the detection of 44 unique mutations in the human EGFR gene. EGFR, a proto-oncogene and a receptor tyrosine kinase, activates MAP kinase, AKT, and JNK signaling pathways to regulate cellular migration, adhesion, and proliferation. Previous scientific reports have shown a strong association between mutations in the EGFR gene and lung cancer as well as glioblastoma multiforme. The EGFR mutations found in cancer samples include missense point mutations and inactivating nonsense mutations in the P-loop, activation loop, and kinase domains. The DNA sequence mutation assays in the array detect the most frequent mutations in EGFR compiled from over 12,250 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 2 samples, while the 384-well array format profiles 8 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 EGFR 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 cyler (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	EGFR	6224	c.2573T>G	p.L858R	SMPH004661A
A02	EGFR	6223	c.2235_2249del15	p.E746_A750del	SMPH004662A
A03	EGFR	6225	c.2236_2250del15	p.E746_A750del	SMPH004663A
A04	EGFR	12370	c.2240_2257del18	p.L747_P753>S	SMPH004675A
A05	EGFR	6240	c.2369C>T	p.T790M	SMPH004665A
A06	EGFR	12382	c. 2239_2248TTAAGAGA AG>C	p.L747_A750>P	SMPH004676A
A07	EGFR	12384	c.2237_2255>T	p.E746_S752>V	SMPH004669A
A08	EGFR	12369	c.2240_2254del15	p.L747_T751del	SMPH004682A
A09	EGFR	6213	c.2582T>A	p.L861Q	SMPH004716A
A10	EGFR	6255	c.2239_2256del18	p.L747_S752del	SMPH004694A
A11	EGFR	6252	c.2155G>A	p.G719S	SMPH004671A
A12	EGFR	6241	c.2303G>T	p.S768I	SMPH004666A
B01	EGFR	6239	c.2156G>C	p.G719A	SMPH004704A
B02	EGFR	21687	c.866C>T	p.A289V	SMPH004846A
B03	EGFR	6254	c.2239_2253del15	p.L747_T751del	SMPH004697A
B04	EGFR	12383	c.2239_2251>C	p.L747_T751>P	SMPH004708A
B05	EGFR	6218	c.2239_2247del9	p.L747_E749del	SMPH004664A
B06	EGFR	12678	c.2237_2251del15	p.E746_T751>A	SMPH004667A
B07	EGFR	6253	c.2155G>T	p.G719C	SMPH004672A
B08	EGFR	13424	c.2497T>G	p.L833V	SMPH004751A
B09	EGFR	21690	c.1793G>T	p.G598V	SMPH004847A
B10	EGFR	12988	c.2125G>A	p.E709K	SMPH004670A
B11	EGFR	12376	c. 2307_2308insGCCAGC GTG	p.V769_D770insASV	SMPH004736A
B12	EGFR	13427	c.2126A>C	p.E709A	SMPH004764A
C01	EGFR	6210	c.2240_2251del12	p.L747_T751>S	SMPH004737A
C02	EGFR	12387	c.2239_2258>CA	p.L747_P753>Q	SMPH004884A
C03	EGFR	21683	c.323G>A	p.R108K	SMPH004967A
C04	EGFR	21351	c.89_889del801	p.V30_R297>G	SMPH004660A
C05	EGFR	13182	c.2203G>A	p.G735S	SMPH004685A
C06	EGFR	12422	c.2238_2248>GC	p.L747_A750>P	SMPH004768A
C07	EGFR	13009	c.2126A>G	p.E709G	SMPH004776A
C08	EGFR	6220	c.2238_2255del18	p.E746_S752>D	SMPH004905A
C09	EGFR	21684	c.787A>C	p.T263P	SMPH004966A
C10	EGFR	21686	c.865G>A	p.A289T	SMPH004698A
C11	EGFR	12371	c.2126A>T	p.E709V	SMPH004702A
C12	EGFR	21685	c.866C>A	p.A289D	SMPH004845A
D01	EGFR	12386	c.2237_2252>T	p.E746_T751>V	SMPH004854A
D02	EGFR	12366	c.2572C>A	p.L858M	SMPH004880A
D03	EGFR	12378	c.2310_2311insGGT	p.D770_N771insG	SMPH004900A
D04	EGFR	6219	c.2248G>C	p.A750P	SMPH004959A
D05	EGFR	12986	c.2429G>A	p.G810D	SMPH004717A
D06	EGFR	18425	c.2156G>A	p.G719D	SMPH004725A
D07	EGFR	12403	c.2239_2256>CAA	p.L747_S752>Q	SMPH004763A
D08	EGFR	13432	c.2193G>A	p.W731*	SMPH004836A
D09	EGFR	99000007	copy number	copy number	SMPH017169A
D10	EGFR	99000007	copy number	copy number	SMPH017169A
D11	SMPC	99000017	positive PCR control	positive PCR control	SMPH017179A
D12	SMPC	99000017	positive PCR control	positive PCR control	SMPH017179A
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G12	EGFR	21685	c.866C>A	p.A289D	SMPH004845A
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H10	EGFR	99000007	copy number	copy number	SMPH017169A
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	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR
B	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR
C	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR
D	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	SMPC	SMPC
E	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR
F	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR
G	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR
H	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	EGFR	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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