



# dPCR LNA Mutation Assays

## Assay/target list

The dPCR LNA Mutation Assays are duplex, hydrolysis probe-based assays that identify the presence of specific mutation sequences. One probe detects the mutant allele, and the other probe detects the wild-type allele. The assay designs have been wet-lab tested, and sensitivity for detecting the target mutation is 0.1% in a wild-type background in one well of a QIAcuity Nanoplate. The assays can be run on the QIAcuity® instrument in about two hours with minimal hands-on time.

Over 200 assays are available as a ready-to-use solutions, coming with a 30x-concentrated assay which consists of two primers and probes for the detection of the mutant and the wild-type. dPCR LNA Mutation Assays are used with the QIAcuity MasterMix. The dPCR LNA Mutation Assays are available in 3 different dye combinations (FAM/HEX, ATTO 550/ROX, and Cy5/ATTO 700) to detect mutant/wild- type sequences. Use of Cy5/ATTO 700 assays is only possible in combination with the QIAcuity High Multiplex Probe PCR Kit and QIAcuity Software Suite 3.0 or newer.

More information on the dPCR LNA Mutation Assays can be found at [geneglobe.qiagen.com/applications/digital-pcr](https://geneglobe.qiagen.com/applications/digital-pcr).

**dPCR LNA Mutation Assay list**

Gene Symbol	Genomic Mutation ID	Legacy Mutation ID	Amino Acid Change	Nucleotide Change	GeneGlobe ID	Wet-lab verified
ABL1	COSV59323790	COSM12560	p.T334I	c.1001C>T	DMH0000306	Yes
ABL1	COSV59325003	COSM12574	p.E274V	c.821A>T	DMH0000053	Yes
ABL1	COSV59325175	COSM12576	p.Y272H	c.814T>C	DMH0000571	Yes
ABL1	COSV59325418	COSM12573	p.E274K	c.820G>A	DMH0000573	Yes
BRAF	COSV56056643	COSM476	p.V600E	c.1799T>A	DMH0000004	Yes
BRAF	COSV56057713	COSM473	p.V600K	c.1798_1799de linsAA	DMH0000001	Yes
BRAF	COSV56058419	COSM474	p.V600R	c.1798_1799de linsAG	DMH0000002	Yes
BRAF	COSV56059110	COSM475	p.V600E	c.1799_1800de linsAA	DMH0000003	Yes
BRAF	COSV56059623	COSM477	p.V600D	c.1799_1800de linsAA	DMH0000039	Yes
BRAF	COSV56061424	COSM460	p.G469A	c.1406G>C	DMH0000047	Yes
BRAF	COSV56075762	COSM1130	p.V600M	c.1798G>A	DMH0000218	Yes
BRAF	COSV56080151	COSM6137	p.V600G	c.1799T>G	DMH0000068	Yes
BRAF	COSV56288520	COSM1583011	p.V600R	c.1798_1799de linsCG	DMH0001099	Yes
BTK	COSV58117136	COSM6053938	p.C515S	c.1544G>C	DMH0000220	Yes
BTK	COSV58117643	COSM6053936	p.C515R	c.1543T>C	DMH0000222	Yes
CDKN2A	COSV58683273	COSM12743	p.P48L	c.143C>T	DMH0000566	Yes
CDKN2A	COSV58683444	COSM753749	p.E120*	c.358G>T	DMH0000224	Yes
DNMT3A	COSV53036153	COSM52944	p.R882H	c.2645G>A	DMH0000489	Yes

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DNMT3A	COSV53036332	COSM53042	p.R882C	c.2644C>T	DMH0000150	Yes
DNMT3A	COSV53041674	COSM87007	p.P904L	c.2711C>T	DMH0000043	Yes
EGFR	COSV51765066	COSM6225	p.E746_A750del	c.2236_2250del	DMH0000240	Yes
EGFR	COSV51765099	COSM12382	p.L747_A750delinsP	c.2239_2248delinsC	DMH0000304	Yes
EGFR	COSV51765119	COSM6223	p.E746_A750del	c.2235_2249del	DMH0000276	Yes
EGFR	COSV51765161	COSM6224	p.L858R	c.2573T>G	DMH0000386	Yes
EGFR	COSV51765492	COSM6240	p.T790M	c.2369C>T	DMH0000085	Yes
EGFR	COSV51765856	COSM12383	p.L747_T751delinsP	c.2239_2251delinsC	DMH0000073	Yes
EGFR	COSV51765862	COSM12384	p.E746_S752delinsV	c.2237_2255delinsT	DMH0000246	Yes
EGFR	COSV51766231	COSM13556	p.S752_I759del	c.2253_2276del	DMH0000078	Yes
EGFR	COSV51766247	COSM12385	p.L747_T751del	c.2240_2254del	DMH0000075	Yes
EGFR	COSV51766344	COSM6213	p.L861Q	c.2582T>A	DMH0000006	Yes
EGFR	COSV51766493	COSM6493937	p.C797S	c.2389T>A	DMH0000007	Yes
EGFR	COSV51766509	COSM5945664	p.C797S	c.2390G>C	DMH0000052	Yes
EGFR	COSV51766584	COSM12371	p.E709V	c.2126A>T	DMH0000397	Yes
EGFR	COSV51766606	COSM6253	p.G719C	c.2155G>T	DMH0000280	Yes
EGFR	COSV51767260	COSM12988	p.E709K	c.2125G>A	DMH0000041	Yes
EGFR	COSV51767289	COSM6252	p.G719S	c.2155G>A	DMH0000055	Yes
EGFR	COSV51767308	COSM6255	p.L747_S752del	c.2239_2256del	DMH0000076	Yes
EGFR	COSV51767961	COSM12370	p.L747_P753delinsS	c.2240_2257del	DMH0000266	Yes

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EGFR	COSV51768106	COSM6241	p.S768I	c.2303G>T	DMH0000308	Yes
EGFR	COSV51768180	COSM6210	p.L747_T751delinsS	c.2240_2251del	DMH0001097	Yes
EGFR	COSV51769298	COSM12378	p.D770_N771insG	c.2310_2311insGGT	DMH0000248	Yes
EGFR	COSV51769339	COSM6239	p.G719A	c.2156G>C	DMH0000057	Yes
EGFR	COSV51769364	COSM12678	p.E746_T751delinsA	c.2237_2251del	DMH0000258	Yes
EGFR	COSV51769442	COSM26038	p.K745_E749del	c.2233_2247del	DMH0000082	Yes
EGFR	COSV51769704	COSM12367	p.E746_S752delinsA	c.2237_2254del	DMH0000072	Yes
EGFR	COSV51771891	COSM12416	p.E746_T751delinsVA	c.2237_2253delinsTTGCT	DMH0000236	Yes
EGFR	COSV51772418	COSM6220	p.E746_S752delinsD	c.2238_2255del	DMH0000232	Yes
EGFR	COSV51772956	COSM13427	p.E709A	c.2126A>C	DMH0000271	Yes
EGFR	COSV5177306	COSM13533	p.L746_V750del	c.2300_2310delinsCCAGCGTGGAT	DMH0000273	Yes
EGFR	COSV51775936	COSM12386	p.E746_T751delinsV	c.2237_2252delinsT	DMH0000305	Yes
EGFR	COSV51778874	COSM12403	p.L747_S752delinsQ	c.2239_2256delinsCAA	DMH0000252	Yes
EGFR	COSV51780076	COSM144206	p.L747_E749del	c.2239_2247del	DMH0000262	Yes
EGFR	COSV51781339	COSM18427	p.E746_P753delinsVS	c.2237_2257delinsTCT	DMH0000274	Yes
EGFR	COSV51782151	COSM13552	p.E746_T751delinsIP	c.2235_2251delinsAATTC	DMH0000079	Yes
EGFR	COSV51782279	COSM12422	p.L747_A750delinsP	c.2238_2248delinsGC	DMH0000254	Yes
EGFR	COSV51785746	COSM12387	p.L747_P753delinsQ	c.2239_2258delinsCA	DMH0000269	Yes
EGFR	COSV51810296	COSM4170221	p.L747_A750delinsS	c.2240_2248del	DMH0001098	Yes
EGFR	COSV51811139	COSM12728	p.E746_T751del	c.2236_2253del	DMH0000250	Yes

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EGFR	COSV51817953	COSM13550	p.E746_A750delinsIP	c.2235_2248delinsAATTC	DMH0000070	Yes
EGFR	COSV51850034	COSM13551	p.E746_T751delinsI	c.2235_2252delinsAAT	DMH0000260	Yes
EGFR	COSV51863059	COSM12419	p.L747_T751delinsQ	c.2238_2252delinsGCA	DMH0000075	Yes
ESR1	COSV105858147	COSM9994994	p.S463C	c.1388C>G	DMH0001102	Yes
ESR1	COSV52781024	COSM94250	p.D538G	c.1613A>G	DMH0001110	Yes
ESR1	COSV52782264	COSM3829320	p.E380Q	c.1138G>C	DMH0001100	Yes
ESR1	COSV52782924	COSM1074637	p.Y537C	c.1610A>G	DMH0001108	Yes
ESR1	COSV52782930	COSM6906109	p.L536P	c.1607T>C	DMH0001104	Yes
ESR1	COSV52783938	COSM1074639	p.Y537S	c.1610A>C	DMH0001109	Yes
ESR1	COSV52784784	COSM3621514	p.S463F	c.1388C>T	DMH0001103	Yes
ESR1	COSV52784970	COSM1074635	p.Y537N	c.1609T>A	DMH0001107	Yes
ESR1	COSV52784978	COSM1074635	p.Y537N	c.1609T>A	DMH0001107	Yes
ESR1	COSV52787207	COSM4774826	p.L536R	c.1607T>G	DMH0001105	Yes
ESR1	COSV52795259	COSM6843697	p.L536H	c.1607T>A	DMH0001106	Yes
FLT3	COSV54042116	COSM783	p.D835Y	c.2503G>T	DMH0000152	Yes
FLT3	COSV54042199	COSM784	p.D835V	c.2504A>T	DMH0000154	Yes
FLT3	COSV54042636	COSM785	p.D835H	c.2503G>C	DMH0000156	Yes
FLT3	COSV54042664	COSM116249	p.V491L	c.1471G>C	DMH0000009	Yes
FLT3	COSV54042688	COSM303886	p.N676K	c.2028C>A	DMH0000158	Yes
FLT3	COSV54042783	COSM25248	p.G831E	c.2492G>A	DMH0000160	Yes

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FLT3	COSV54044083	COSM19692	p.Y842C	c.2525A>G	DMH0000494	Yes
FLT3	COSV54044297	COSM788	p.D835E	c.2505T>G	DMH0000496	Yes
FLT3	COSV54045054	COSM787	p.D835E	c.2505T>A	DMH0000168	Yes
FLT3	COSV54046796	COSM28042	p.S451F	c.1352C>T	DMH0000281	Yes
FLT3	COSV54048091	COSM28040	p.D324N	c.970G>A	DMH0000500	Yes
FLT3	COSV54058572	COSM19522	p.V592A	c.1775T>C	DMH0000174	Yes
FLT3	COSV54061573	COSM28047	p.R834Q	c.2501G>A	DMH0000503	Yes
IDH1	COSV61615420	COSM28750	p.R132L	c.395G>T	DMH0000015	Yes
IDH1	COSV61615456	COSM28749	p.R132G	c.394C>G	DMH0000063	Yes
IDH1	COSV61615649	COSM28748	p.R132S	c.394C>A	DMH0000066	Yes
IDH1	COSV61621070	COSM88208	p.R100Q	c.299G>A	DMH0000230	Yes
IDH2	COSV57468734	COSM33733	p.R172K	c.515G>A	DMH0000064	Yes
IDH2	COSV57468751	COSM41590	p.R140Q	c.419G>A	DMH0000018	Yes
IDH2	COSV57468910	COSM34090	p.R172S	c.516G>T	DMH0000301	Yes
IDH2	COSV57468942	COSM34039	p.R172W	c.514A>T	DMH0000056	Yes
IDH2	COSV57468971	COSM33732	p.R172M	c.515G>T	DMH0000016	Yes
IDH2	COSV57468989	COSM33731	p.R172G	c.514A>G	DMH0000282	Yes
JAK2	COSV67569051	COSM12600	p.V617F	c.1849G>T	DMH0000021	Yes
KIT	COSV55386424	COSM1314	p.D816V	c.2447A>T	DMH0000515	Yes

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KRAS	COSV55497357	COSM533	p.G13A	c.38G>C	DMH0000334	Yes
KRAS	COSV55497369	COSM521	p.G12D	c.35G>A	DMH0000286	Yes
KRAS	COSV55497378	COSM527	p.G13C	c.37G>T	DMH0000195	Yes
KRAS	COSV55497388	COSM532	p.G13D	c.38G>A	DMH0000289	Yes
KRAS	COSV55497419	COSM520	p.G12V	c.35G>T	DMH0000285	Yes
KRAS	COSV55497461	COSM517	p.G12S	c.34G>A	DMH0000519	Yes
KRAS	COSV55497469	COSM516	p.G12C	c.34G>T	DMH0000309	Yes
KRAS	COSV55497479	COSM522	p.G12A	c.35G>C	DMH0001055	Yes
KRAS	COSV55497582	COSM518	p.G12R	c.34G>C	DMH0000284	Yes
KRAS	COSV55498739	COSM552	p.Q61R	c.182A>G	DMH0000023	Yes
KRAS	COSV55499342	COSM114692	p.Q61H	c.183A>C	DMH0000024	Yes
KRAS	COSV55499223	COSM1146992	p.Q61H	c.183A>T	DMH0000025	Yes
KRAS	COSV55502066	COSM1159597	p.Q61K	c.181C>A	DMH0000290	Yes
KRAS	COSV55502117	COSM529	p.G13R	c.37G>C	DMH0000332	Yes
KRAS	COSV55502677	COSM550	p.Q61E	c.181C>G	DMH0000044	Yes
KRAS	COSV55504296	COSM553	p.Q61L	c.182A>T	DMH0000198	Yes
KRAS	COSV55508574	COSM551	p.Q61P	c.182A>C	DMH0000022	Yes
KRAS	COSV55508630	COSM531	p.G13D	c.38_39delins AT	DMH0000525	Yes
KRAS	COSV55509530	COSM528	p.G13S	c.37G>A	DMH0000331	Yes
KRAS	COSV55522580	COSM534	p.G13V	c.38G>T	DMH0000527	Yes

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MET	COSV59264428	COSM735	p.?	c.3083-52_3083-51insCT	DMH0000256	Yes
NOTCH1	COSV53024776	COSM12774	p.P2514Rfs*4	c.7541_7542del	DMH0000026	Yes
NOTCH1	COSV53024854	COSM13050	p.F1592S	c.4775T>C	DMH0000136	Yes
NOTCH1	COSV53024869	COSM13048	p.L1678P	c.5033T>C	DMH0000027	Yes
NOTCH1	COSV53026055	COSM4590155	p.D573A	c.1718A>C	DMH0000486	Yes
NOTCH1	COSV53026096	COSM4163569	p.T311P	c.931A>C	DMH0000144	Yes
NOTCH1	COSV53026112	COSM1624742	p.T194P	c.580A>C	DMH0000487	Yes
NOTCH1	COSV53027279	COSM13053	p.R1598P	c.4793G>C	DMH0000146	Yes
NOTCH1	COSV53028112	COSM4775081	p.I1616N	c.4847T>A	DMH0000148	Yes
NRAS	COSV54736310	COSM580	p.Q61K	c.181C>A	DMH0000505	Yes
NRAS	COSV54736320	COSM586	p.Q61H	c.185A>C	DMH0000189	Yes
NRAS	COSV54736340	COSM584	p.Q61R	c.182A>G	DMH0000183	Yes
NRAS	COSV54736386	COSM570	p.G13C	c.37G>T	DMH0000342	Yes
NRAS	COSV54736416	COSM573	p.G13D	c.38G>A	DMH0000343	Yes
NRAS	COSV54736476	COSM571	p.G13S	c.37G>A	DMH0000510	Yes
NRAS	COSV54736480	COSM574	p.G13V	c.38G>T	DMH0000344	Yes
NRAS	COSV54736487	COSM562	p.G12C	c.34G>T	DMH0000186	Yes
NRAS	COSV54736550	COSM569	p.G13R	c.37G>C	DMH0000341	Yes
NRAS	COSV54736555	COSM565	p.G12A	c.35G>C	DMH0000339	Yes
NRAS	COSV54736621	COSM563	p.G12S	c.34G>A	DMH0000188	Yes

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NRAS	COSV54736624	COSM583	p.Q61L	c.182A>T	DMH0000190	Yes
NRAS	COSV54736793	COSM575	p.G13A	c.38G>C	DMH0000345	Yes
NRAS	COSV54736940	COSM561	p.G12R	c.34G>C	DMH0000336	Yes
NRAS	COSV54736974	COSM566	p.G12V	c.35G>T	DMH0000340	Yes
NRAS	COSV54736991	COSM585	p.Q61H	c.183A>T	DMH0000349	Yes
NRAS	COSV54743343	COSM581	p.Q61E	c.181C>G	DMH0000347	Yes
PIK3CA	COSV55873195	COSM775	p.H1047R	c.3140A>G	DMH0000036	Yes
PIK3CA	COSV55873220	COSM764	p.E545G	c.1634A>G	DMH0000033	Yes
PIK3CA	COSV55873239	COSM763	p.E545K	c.1633G>A	DMH0000292	Yes
PIK3CA	COSV55873276	COSM754	p.N345K	c.1035T>A	DMH0000031	Yes
PIK3CA	COSV55873401	COSM774	p.H1047L	c.3140A>T	DMH0000032	Yes
PIK3CA	COSV55873527	COSM766	p.Q546K	c.1636C>A	DMH0000037	Yes
PIK3CA	COSV55873676	COSM27502	p.E81K	c.241G>A	DMH0000542	Yes
PIK3CA	COSV55874453	COSM12597	p.G1049R	c.3145G>C	DMH0000050	Yes
PIK3CA	COSV55874568	COSM746	p.R88Q	c.263G>A	DMH0000204	Yes
PIK3CA	COSV55875460	COSM446019	p.E726K	c.2176G>A	DMH0000206	Yes
PIK3CA	COSV55876499	COSM774	p.H1047Y	c.3139C>T	DMH0000209	Yes
PIK3CA	COSV55876538	COSM27505	p.K111N	c.333G>T	DMH0000210	Yes
PIK3CA	COSV55876869	COSM12459	p.Q546R	c.1637A>G	DMH0000212	Yes
PIK3CA	COSV55876934	COSM6475607	p.T1025=	c.3075C>T	DMH0000548	Yes

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PIK3CA	COSV55878974	COSM773	p.M1043I	c.3129G>T	DMH0000034	Yes
PIK3CA	COSV55881636	COSM86044	p.E365K	c.1093G>A	DMH0000216	Yes
PTEN	COSV64288384	COSM5219	p.R130G	c.388C>G	DMH0000296	Yes
PTEN	COSV64288463	COSM5152	p.R130*	c.388C>T	DMH0000294	Yes
PTEN	COSV64288653	COSM5154	p.R233*	c.697C>T	DMH0000295	Yes
TP53	COSV52660737	COSM10733	p.Q192*	c.574C>T	DMH0000090	Yes
TP53	COSV52660939	COSM10739	p.A161T	c.481G>A	DMH0000434	Yes
TP53	COSV52660980	COSM10660	p.R273H	c.818G>A	DMH0000094	Yes
TP53	COSV52661282	COSM10758	p.Y220C	c.659A>G	DMH0000440	Yes
TP53	COSV52661329	COSM10645	p.C176F	c.527G>T	DMH0000353	Yes
TP53	COSV52661331	COSM10716	p.L198V	c.325G>T	DMH0000354	Yes
TP53	COSV52661594	COSM10817	p.R249S	c.747G>T	DMH0000371	Yes
TP53	COSV52661744	COSM11081	p.G245C	c.733G>T	DMH0000374	Yes
TP53	COSV52661812	COSM10891	p.V272M	c.814G>A	DMH0000104	Yes
TP53	COSV52661877	COSM6932	p.G245S	c.733G>A	DMH0000448	Yes
TP53	COSV52662247	COSM43629	p.R249W	c.745A>T	DMH0000377	Yes
TP53	COSV52662414	COSM10742	p.H193R	c.578A>G	DMH0000108	Yes
TP53	COSV52663142	COSM10808	p.Y163C	c.488A>G	DMH0000112	Yes
TP53	COSV52664318	COSM1645467	p.E286K	c.856G>A	DMH0000364	Yes
TP53	COSV52664805	COSM3675521	p.R273L	c.818G>T	DMH0000114	Yes

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