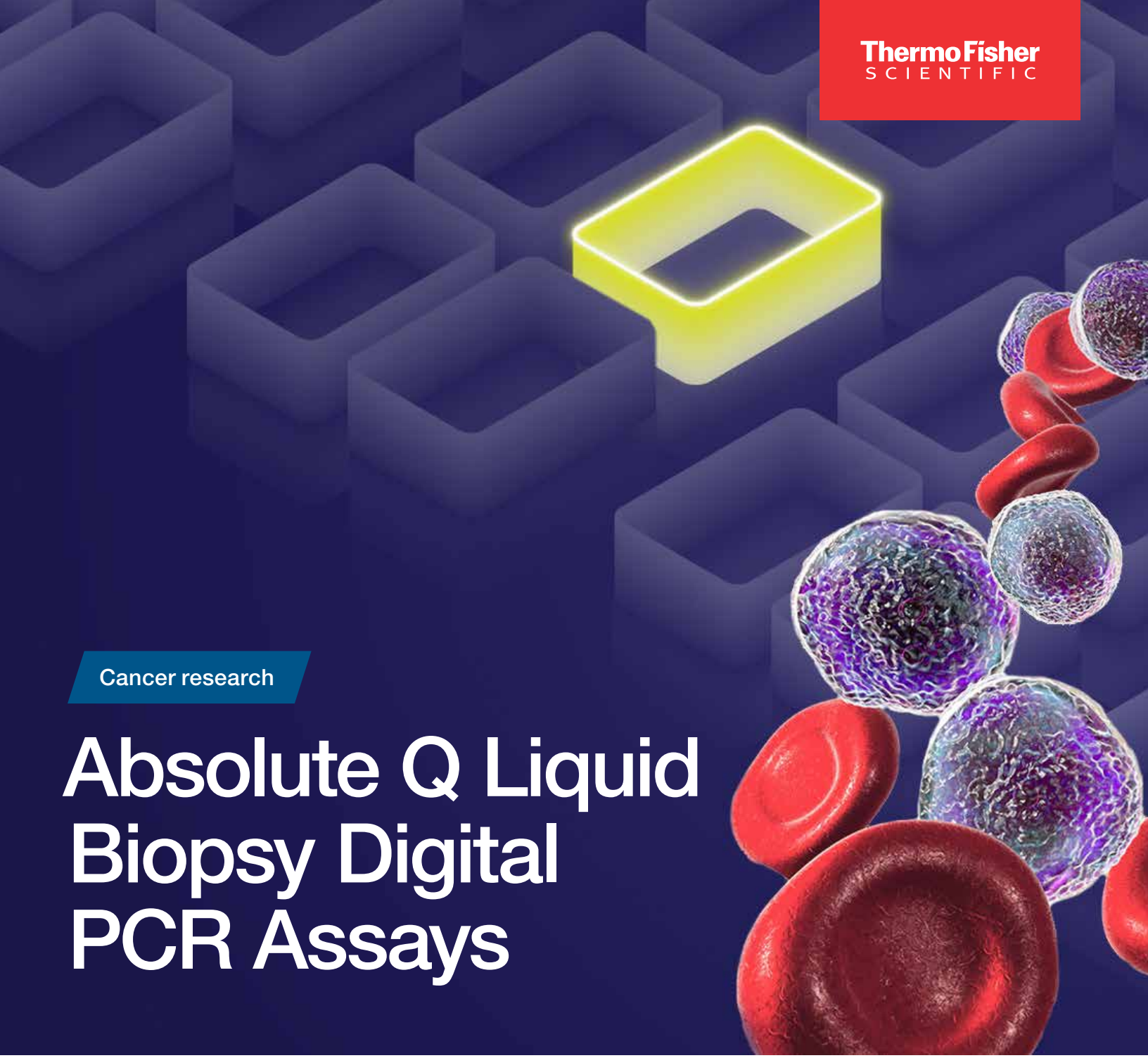
ThermoFisher SCIENTIFIC



Cancer research

Absolute Q Liquid Biopsy Digital PCR Assays

Rare-target quantification using digital PCR

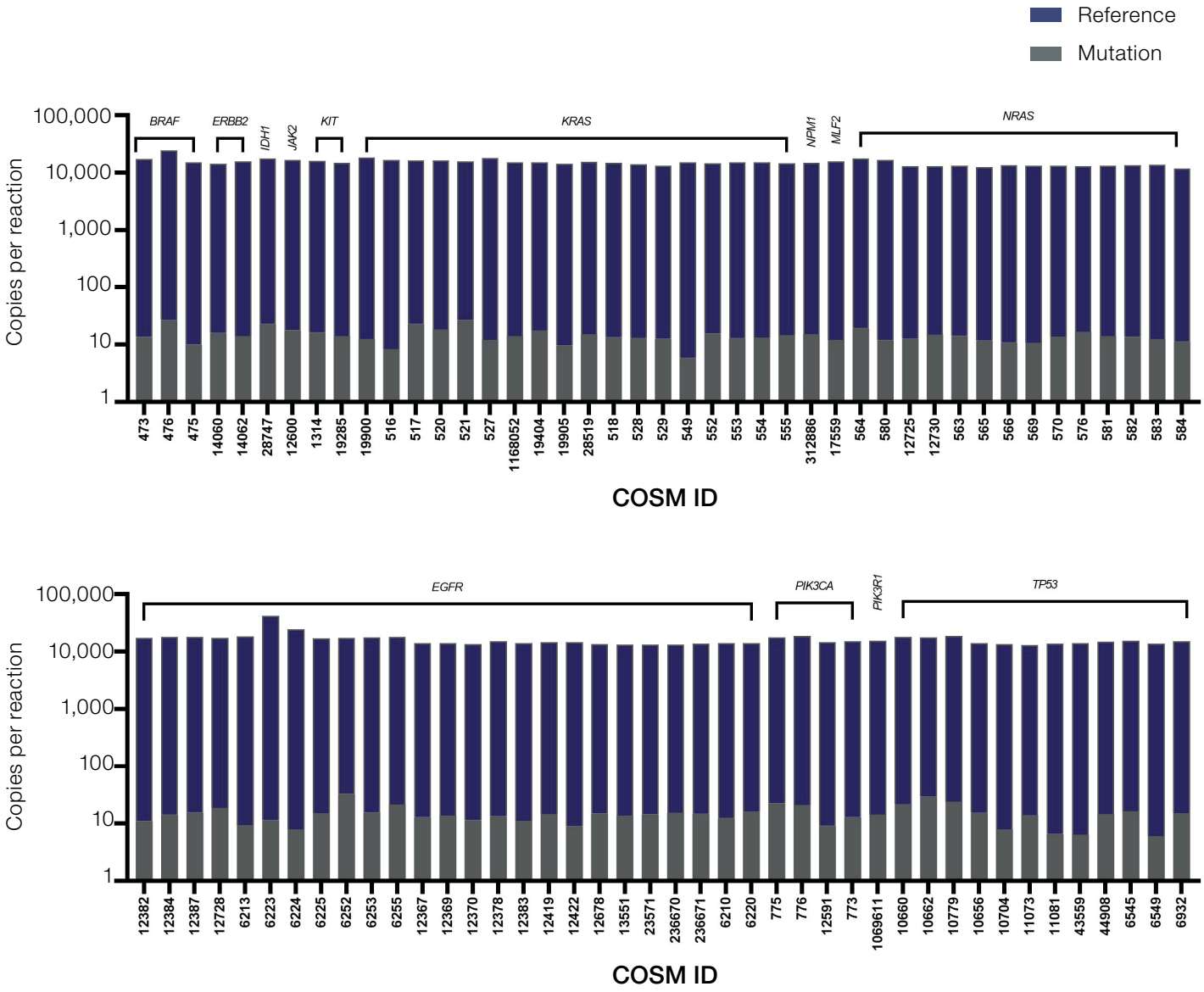
applied biosystems

Absolute Q Liquid Biopsy Digital PCR Assays are wet lab verified to detect down to 0.1% mutation allele frequency

Identification and tracking of cancer-causing mutations via liquid biopsy are increasingly being used for measuring potential therapeutic response, quantifying residual tumor burden, and studying resistance to potential targeted therapies. However, detecting circulating tumor DNA for liquid biopsy applications is challenging because the targets of interest are only a small fraction of the total circulating cell-free nucleic acids collected in the sample. With its unparalleled precision and sensitivity, digital PCR (dPCR) is ideally suited for liquid biopsy applications and rare mutation detection.

Liquid biopsy analysis relies on highly sensitive assays to detect low-abundant quantities of highly fragmented nucleic acids derived from tumors. Applied Biosystems™ Absolute Q™ Liquid Biopsy Digital PCR Assays are a precise, fast, and simple solution for the detection and quantification of common cancer-related mutations, making them ideal for the study of response and resistance to treatment. Each predesigned assay has been verified using controls to detect the target cancer-related mutation down to a 0.1% variant allele frequency.

Quantification of cancer mutations using Absolute Q Liquid Biopsy Digital PCR Assays on the Applied Biosystems™ QuantStudio™ Absolute Q™ Digital PCR System



Predesigned assays simplify your workflow

Predesigned Absolute Q Liquid Biopsy Digital PCR Assays consist of a forward primer, one or more target-specific probes, and a reverse primer premixed together at specified concentrations. They require no further design, optimization, or verification. Just add your sample and reagent, then run your experiment.

- **Simple**—streamlined workflow for ease of use with your dPCR instrument
- **Fast**—minimal hands-on time with results in 90 minutes when used with the QuantStudio Absolute Q Digital PCR System
- **Dependable**—analyze your data with confidence using verified assays backed by a performance guarantee*

*** We stand behind every predesigned Absolute Q assay you buy from us**

We guarantee the performance of our predesigned Absolute Q assays for dPCR experiments. Our application-specific portfolio of assays enables you to obtain the highest quality and performance available. These assays are designed and verified using up-to-date annotations and gold-standard Applied Biosystems™ TaqMan™ chemistry.

If an Absolute Q dPCR assay does not perform according to conformance documentation, we will replace it at no cost, or credit your account.

To see full details of the guarantee, go to thermofisher.com/absoluteqassayguarantee.

Ordering information

Gene	COSM ID	Amino acid mutation	CDS mutation	Assay ID
Absolute Q Liquid Biopsy Digital PCR Assays				
BRAF	473	p.V600K	c.1798_1799GT>AA	DGU62RA
	475	p.V600E	c.1799_1800TG>AA	DGWCWA7
	476	p.V600E	c.1799T>A	DGXGPV4
EGFR	12367	p.E746_S752>A	c.2237_2254del18	DGYMJF2
	12369	p.L747_T751delLREAT	c.2240_2254del15	DGZTDZY
	12370	p.L747_P753>S	c.2240_2257del18	DG2W7KW
	12378	p.D770_N771insG	c.2310_2311insGGT	DG32Z6U
	12382	p.L747_A750>P	c.2239_2248TTAAGAGAAG>C	DG47VRR
	12383	p.L747_T751>P	c.2239_2251>C	DG7DPCN
	12384	p.E746_S752>V	c.2237_2255>T	DG9HHWK
	12387	p.L747_P753delinsQ	c.2239_2258delinsCA	DGAAAAC
	12419	p.L747_T751>Q	c.2238_2252>GCA	DGCE3U9
	12422	p.L747_A750>P	c.2238_2248>GC	DGDJXE6
	12678	p.E746_T751>A	c.2237_2251del15	DGEPRY3
	12728	p.E746_T751delELREAT	c.2236_2253del18	DGFVKJZ
	13551	p.E746_T751>I	c.2235_2252>AAT	DGGZE4X
	23571	p.L747_T751delLREAT	c.2238_2252del15	DGH49PV
	236670	p.S492R	c.1476C>A	DGKA3AT
	236671	p.S492R	c.1474A>C	DGMFWVP
	6210	p.L747_T751>S	c.2240_2251del12	DGNKRFM
	6213	p.L861Q	c.2582T>A	DGPRJZJ
	6220	p.E746_S752>D	c.2238_2255del18	DGRWEKG
	6223	p.E746_A750delELREA	c.2235_2249del15	DGTZ76E
	6224	p.L858R	c.2573T>G	DGU62RC
	6225	p.E746_A750delELREA	c.2236_2250del15	DGWCWA9
	6252	p.G719S	c.2155G>A	DGXGPV6
	6253	p.G719C	c.2155G>T	DGYMJF3
	6255	p.L747_S752delLREATS	c.2239_2256del18	DGZTDZZ
ERBB2	14060	p.L755S	c.2264T>C	DG2W7KX
	14062	p.V777L	c.2329G>T	DG32Z6V
IDH1	28747	p.R132C	c.394C>T	DG47VRT
JAK2	12600	p.V617F	c.1849G>T	DG7DPCP

Gene	COSM ID	Amino acid mutation	CDS mutation	Assay ID
KIT	1314	p.D816V	c.2447A>T	DG9HHWM
	19285	p.D816E	c.2448C>G	DGAAAAD
KRAS	1168052	p.Q61R	c.182_183AA>GT	DGCE3VA
	19404	p.A146T	c.436G>T	DGDJXE7
	19900	p.A146V	c.437C>T	DGEPRY4
	19905	p.A416P	c.438G>C	DGFVKJ2
	28519	p.K117N	c.351A>T	DGGZE4Y
	516	p.G12C	c.34G>T	DGH49PW
	517	p.G12S	c.34G>A	DGKA3AU
	518	p.G12R	c.34G>C	DGMFWVR
	520	p.G12V	c.35G>T	DGNKRFN
	521	p.G12D	c.35G>A	DGPRJZK
	527	p.G13C	c.37G>T	DGRWEKH
	528	p.G13S	c.37G>A	DGTZ76F
	529	p.G13R	c.37G>C	DGU62RD
	549	p.Q61K	c.181C>A	DGWCWCA
	552	p.Q61R	c.182A>G	DGXGPV7
	553	p.Q61L	c.182A>T	DGYMJF4
	554	p.Q61H	c.183A>C	DGZTDZ2
	555	p.Q61H	c.183A>T	DG2W7KY
MLF2	312886	p.R158W	c.472C>T	DG32Z6W
NPM1	17559	p.W288fs*12	c.863_864insTCTG	DG47VRU
NRAS	12725	p.Q61L	c.181_182CA>TT	DG7DPCR
	12730	p.Q61K	c.180_181AC>TA	DG9HHWN
	563	p.G12S	c.34G>A	DGAAAAE
	564	p.G12D	c.35G>A	DGCE3VC
	565	p.G12A	c.35G>C	DGDJXE9
	566	p.G12V	c.35G>T	DGEPRY6
	569	p.G13R	c.37G>C	DGFVKJ3
	570	p.G13C	c.37G>T	DGGZE4Z
	576	p.G13G	c.39T>C	DGH49PX
	580	p.Q61K	c.181C>A	DGKA3AV
	581	p.Q61E	c.181C>G	DGMFWVT
	582	p.Q61P	c.182A>C	DGNKRFP
	583	p.Q61L	c.182A>T	DGPRJZM
	584	p.Q61R	c.182A>G	DGRWEKJ
PIK3CA	12591	p.M1043V	c.3127A>G	DGTZ76G
	773	p.M1043I	c.3129G>T	DGU62RE
	775	p.H1047R	c.3140 A>G	DGWCWCC
	776	p.H1047L	c.3140 A>T	DGXGPV9
PIK3R1	1069611	p.K567E	c.1699A>G	DGYMJF6
TP53	10656	p.R248W	c.742C>T	DGZTDZ3
	10660	p.R273H	c.818G>A	DG2W7KZ
	10662	p.R248Q	c.743G>A	DG32Z6X
	10704	p.R282W	c.844C>T	DG47VRV
	10779	p.R273L	c.818G>T	DG7DPCT
	11073	p.R342*	c.1024C>T	DG9HHWP
	11081	p.G245C	c.733G>T	DGAAAAF
	43559	p.V173L	c.517G>T	DGCE3VD
	44908	p.R248Q	c.743_744GG>AA	DGDJXFA
	6545	p.R248W	c.741_742CC>TT	DGEPRY7
	6549	p.R248L	c.743G>T	DGFVKJ4
	6932	p.G245S	c.733G>A	DGGZE42
Custom dPCR assay				Please inquire

Learn more about Absolute Q Liquid Biopsy dPCR Assays at **thermofisher.com/dpcr-liquidbiopsy**

Powerfully simple dPCR

Simplify your workflow even further by combining Absolute Q dPCR assays with the QuantStudio Absolute Q Digital PCR System—DNA sample to results in <2 hours with minimal hands-on time. Moreover, there is no steep learning curve, as the workflow is identical to real-time PCR.

To complete your dPCR solution, use Applied Biosystems™ Absolute Q™ DNA Digital PCR Master Mix. Optimized for use with the QuantStudio Absolute Q Digital PCR System and Absolute Q dPCR assays, the 5X formulation enables analysis of a higher sample volume and delivers accurate quantification of DNA targets without using a standard curve.

QuantStudio Absolute Q system

Product	Cat. No.
QuantStudio Absolute Q Digital PCR System	Please inquire
Absolute Q DNA Digital PCR Master Mix (5X)	A52490
Absolute Q Liquid Biopsy Digital PCR Assays	A53732

ThermoFisher SCIENTIFIC

Learn more about Absolute Q Liquid Biopsy dPCR Assays at **thermofisher.com/dpcr-liquidbiopsy**

applied biosystems