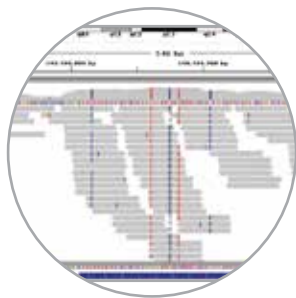


## Quan-Plex™ NGS Reference Standard

The Quan-Plex™ NGS Reference Standard is a highly-characterized, quantitative multiplex NGS control that allows researchers to accurately assess their oncology-based next-generation sequencing (NGS) workflow. The reference standard panel spans a broad range of actionable mutations at dPCR-validated allelic frequencies ranging from 1% to 30%. In addition, the Quan-Plex™ NGS Reference Standards contains > 1,500 COSMIC variants that are endogenous to the isogenic parental cell lines. Digital PCR-validated variants include 11 actionable somatic mutations across seven oncogenes (BRAF, KIT, EGFR, NRAS, HRAS, KRAS and PIK3CA).

### Applications:

- Workflow and assay optimization
- Routine assessment of sample-to-sample or batch-to-batch variability
- Evaluation and refinement of bioinformatics pipelines
- Monitoring of inter-operator variability
- Evaluate reproducibility of your NGS workflow or bioinformatics pipeline



### Key Features & Benefits:

- gDNA, formalin-compromised gDNA, and FFPE cell scroll formats available
- 11 actionable somatic mutations at dPCR-validated allelic frequencies
- > 1,500 endogenous variants present in background parental cell lines
- Highly-characterized, biologically-relevant quality control material

### Digital PCR Verified Mutations\*:

Gene	Chromosome	Nucleotide Change	Amino Acid Change	Cosmic ID	Variant Type	Nominal Mutation Allele Frequency, %
BRAF	7q34	c.1799T>A	p. V600E	476	Substitution	30.0%
KIT	4q11-q12	c. 2447A>T	p. D816V	1314	Substitution	10.0%
EGFR	7p12	c. 2573T>G	p. L858R	6224	Substitution	10.0%
EGFR	7p12	c.2369C>T	p. T790M	6240	Substitution	1.0%
EGFR	7p12	c.2236_2250del15	p. E746_A750del	6223	Deletion	5.0%
KRAS	12p12.1	c.35G>A	p. G12D	521	Substitution	2.0%
HRAS	11p15.5	c.182A>G	p. Q61R	499	Substitution	3.0%
NRAS	1p13.2	c.181C>A	p. Q61K	580	Substitution	5.0%
PIK3CA	3q26.3	c.3140A>T	p. H1047L	776	Substitution	6.0%
PIK3CA	3q26.3	c.1633G>A	p. E545K	763	Substitution	7.0%
EGFR	7p12	c.2155G>A	p. G719S	6252	Substitution	5.0%

\*Please refer to lot specific certificate of analysis (CoA) available on the product page at [www.accuref.com](http://www.accuref.com)

The Quan-Plex™ NGS Reference Standards is an ideal solution for researchers who do not have the resources or time to develop their own in-house reference material. It can be easily integrated into the daily workflow for platform assessment, especially if poor or inconsistent NGS data quality is observed, or to assist in assay validation of a targeted gene panel in a translational genomics laboratory workflow.

For Research Use Only. Not intended for human or animal diagnostics, or therapeutic use.

## Example Variants Confirmed in Parental Cell Lines:

Gene	Chromosome	COSMIC ID	Position	Reference Allele	Variant Allele	Estimated Allelic Frequency
CTNNB1	chr3	COSM33668	41266133	CTT	C	46.8 %
PIK3CA	chr3	COSM775	178952085	A	G	50.6 %
APC	chr5	COSM3760869	112175770	G	A	99.9 %
RET	chr10	COSM4418405	43613843	G	T	99.9 %
KRAS	chr12	COSM1140132	25398281	C	T	49.8 %

## Platform Compatibility:

The Quan-Plex™ NGS Reference Standards can be used with any next-generation sequencing platform (e.g. Illumina's MiSeq, ThermoFisher's PGM) or with any DNA sequencing application such as targeted amplicon (Ion AmpliSeq™ or TruSeq Amplicon™), exome or whole genome. The product is available in two formats: genomic DNA or 10% formalin-compromised genomic DNA, which can be used to generate challenging data sets for bioinformatic analysis pipeline optimization.

## Technical Information:

Genes Covered	BRAF, KIT, EGFR, HRAS, KRAS, NRAS and PIK3CA
COSMIC	1,500+ (background cell lines)
Verified Mutations	11 (dPCR)
Allelic Frequency Range	1% - 30%

## General:

Storage	-20°C (long)
Shipping	4°C (gel pack)
Cell Line Background	RKO/ HCT116
Buffer	10mM Tris-HCl, 1mM EDTA, pH 8.0

## Ordering:

Quan-Plex™ NGS Reference Standard Genomic DNA	Catalog # ARF- 1001G-1
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## Quality:

Genotype	Sanger Sequencing of locus specific PCR (cell line)
Quality	BioAnalyzer™ 1000 DNA Chip

## Related Products:

Quan-Plex™ NGS Reference Standard Genomic DNA (10% formalin-compromised)	Catalog # ARF- 1001FC-1
Quan-Plex™ NGS Reference Standard FFPE Cell Scroll	Catalog # ARF- 1001S

Quantification	Qubit 4.0™ fluorometer Mutation allele frequency (% MAF): Digital PCR and Next- Generation Sequencing: Ion AmpliSeq™ Hotspot Cancer Panel v2 on Illumina
Manufacturing	ISO 9001:2015 and ISO 13485:2016 Certified

## Format:

Unit Size	1 vial (1µg)
Quantity	1µg gDNA (50 ng/µl)

Intended Use	For routine NGS performance monitoring and quality control.
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