OncoSpot™ Cancer Biomarker Mutant Cell Lines

GeneCopoeia offers genome-edited cell lines that carry diverse hotspot mutations commonly seen in the cancer signaling pathways including EGFR, KRAS and BRAF, in both homozygous and heterozygous genotypes.

Advantages:

- ✓ Premade and ready to ship
- ✓ Parental cell line included
- ✓ Validated by PCR and Sanger sequencing
- ✓ Precisely gene edited by CRISPR technology
- ✓ Mutations available in both homozygous and heterozygous genotypes

EGFR mutant cell lines

Cat. # SL713: T790M/T790M
Cat. # SL714: T790M/+
Cat. # SL716: C797S/+
Cat. # SL717: T790M C797S/T790M C797S
Cat. # SL725: L858R/L858R
Cat. # SL726: L858R/+
Cat. # SL727: ΔE746-A750/ΔE746-A750
Cat. # SL728: ΔE746-A750/+

KRAS mutant cell lines

Cat. # SL710: G13C/G13C
Cat. # SL711: G13C/G13G
Cat. # SL712: G13C/G13D
Cat. # SL741: G13D/G13D
Cat. # SL742: G13D/+

BRAF mutant cell lines

Cat. # SL731: V600E/V600E
Cat. # SL732: V600E/+

cKIT mutant cell line

Cat. # SL735: D816V/D816V

PIK3CA mutant cell line

Cat. # SL758: E545K/+

AKT1 mutant cell lines

Cat. # SL739: E17K/E17K
Cat. # SL740: E17K/+

★ For a complete list of cell lines, please visit our website.

Applications:

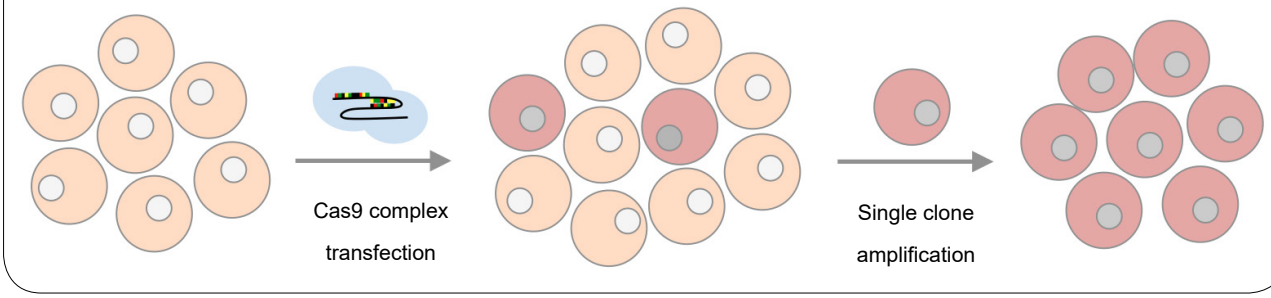
These mutations are highly relevant to diseases and drug targets and suited for drug screening applications.

- ✓ Study molecular and cellular mechanisms
- ✓ Obtain functional characterization
- ✓ As cell line models for the study of metabolic and signaling pathways
- ✓ As *in vitro* models for drug screening and toxicity studies
- ✓ To enhance our understanding of cancer biology and the development of cancer therapies
- ✓ As reference standard for gene mutation detection by NGS and FISH.

Development of Genome-edited Cell Lines

We started out by using CRISPR to introduce MAPK pathway disease-relevant point mutations or frameshift indel mutations into the HCT116 colon cancer cell line. These mutations are integrated either homozygously or heterozygously.

Figure 1. Cell line construction using CRISPR.



OncoSpot™ Cancer Biomarker Mutant Cell Lines

Single clonal isolation was performed for sequence verification, and then expansion. We provide the original isogenic wild type cell line which minimizes background genetic variation and provides you with greater confidence that any differences observed between the mutant and the parental cell line are due to your specific mutation of interest. All of our cell lines undergo extensive QC and validation.

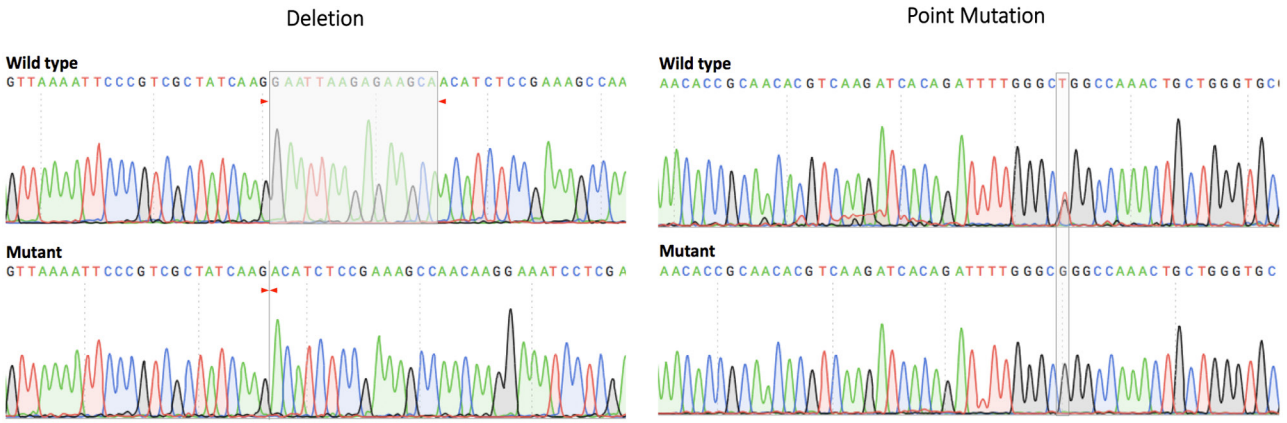


Figure 2. Sequence verification of a single cell clone using PCR and Sanger sequencing. Comparison of the sequencing chromatograms of EGFR ΔE746-A750 cell line (left) and EGFR L858R cell line (right) to wild type. The deleted sequence in EGFR ΔE746-A750 and point mutation in EGFR L858R were marked in grey boxes in the chromatograms.

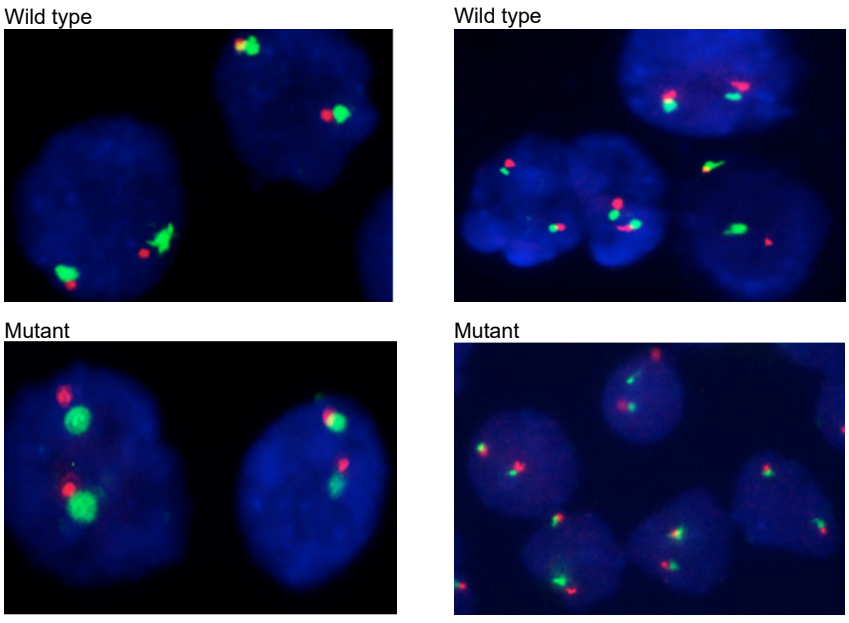


Figure 3. FISH detection of EGFR in wild type (WT) and mutation cell lines. GeneCopoeia VividFISH™ FISH probes CEP7/EGFR were hybridized in WT and EGFR ΔE746-A750 cell line (left) and EGFR L858R cell line (right). The green fluorescence indicates centromeres on chromosome 7. Orange fluorescence indicates the EGFR genes on chromosome 7. The cell nuclei are counter-stained with DAPI (blue).

To Order

Visit our website.
http://www.genecopoeia.com

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