

MAPK Mutation Series (EGFR, KRAS, BRAF): Isogenic FFPE Slides, Scrolls, and Cell Blocks

NGS • qPCR • Sanger • In Situ Hybridization • Immunohistochemistry

Overview:

Cell line-based FFPE reference standards represent ideal materials for companion diagnostics assay development and routine quality control. ASC Dx provides precision-edited, isogenically-paired, mutant and wild-type FFPE reference standards that can help streamline your assay development or quality control processes. Our MAPK reference standards feature 51 mutations in the MAPK signaling pathway. We utilize **footprint-free** genome editing for cell line generation, thereby ensuring that you get the precise mutation that you need, without having to worry about the incorporation of genomic scars from the use of selection markers.

Key Features:

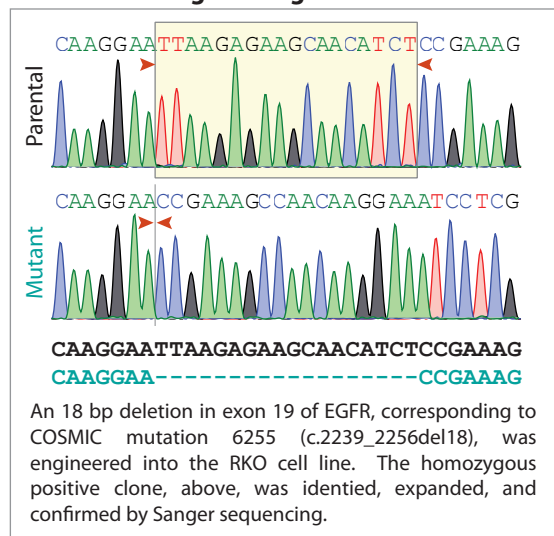
- **Most comprehensive MAPK mutation panel on the market:** 51 mutations in EGFR, KRAS, and BRAF
- **Isogenically paired positive and negative controls**
- **Biorelevant samples:** FFPE preparation mimics the sample processing in clinical specimens
- **Footprint-free genome editing using CRISPR/Cas9**
- **Homozygous knock-in of the desired mutation**

Product Formats:

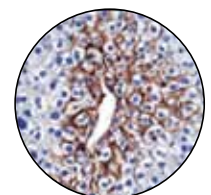
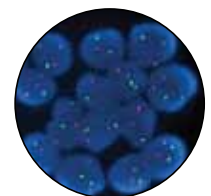
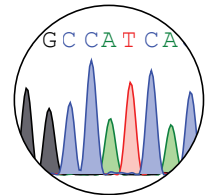
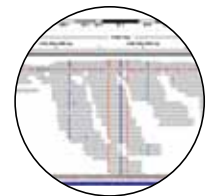
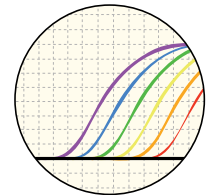
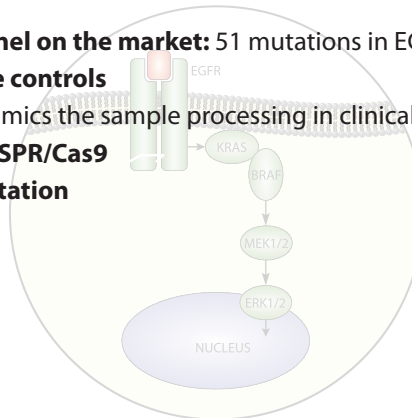
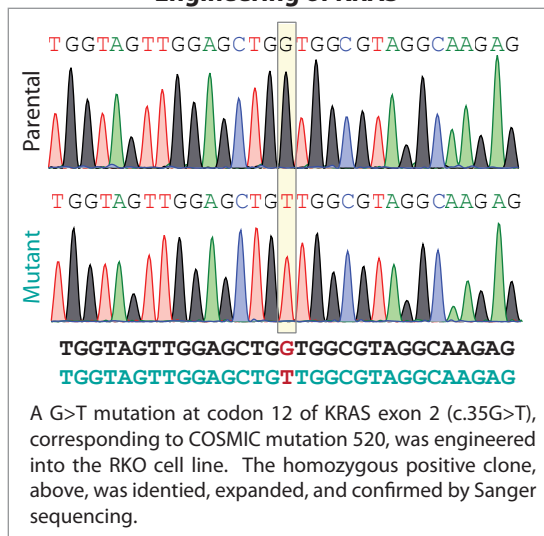
- **Genomic DNA**
- **FFPE Blocks and Scrolls**
- **Engineered Cell Lines**

Examples:

Engineering of EGFR



Engineering of KRAS



MAPK Reference Standard Series (EGFR, KRAS, BRAF)

Mutation Information					Catalog Number	
Gene	Exon	Amino Acid	Nucleic Acid	COSMIC ID	DNA	FFPE
EGFR	18	G719S	2155G>A	6252	ASO-6000	ASO-5000
EGFR	18	*G719C	2155G>T	6253	ASO-6001	ASO-5001
EGFR	18	G719A	2156G>C	6239	ASO-6002	ASO-5002
EGFR	19	*L747_S752delLREATS	2239_2256del18	6255	ASO-6003	ASO-5003
EGFR	19	*L747_P753>S	2240_2257del18	12370	ASO-6004	ASO-5004
EGFR	19	*E746_S752>D	2238_2255del18	6220	ASO-6005	ASO-5005
EGFR	19	*L747_P753>Q	2239_2258>CA	12387	ASO-6006	ASO-5006
EGFR	19	*E746_S752>A	2237_2254del18	12367	ASO-6007	ASO-5007
EGFR	19	*E746_S752>V	2237_2255>T	12384	ASO-6008	ASO-5008
EGFR	19	*E746_T751delELREAT	2236_2253del18	12728	ASO-6009	ASO-5009
EGFR	19	*E746_T751>A	2237_2251del15	12678	ASO-6010	ASO-5010
EGFR	19	*L747_T751delLREAT	2239_2253del15	6254	ASO-6011	ASO-5011
EGFR	19	*L747_T751delLREAT	2240_2254del15	12369	ASO-6012	ASO-5012
EGFR	19	*E746_T751>V	2237_2252>T	12386	ASO-6013	ASO-5013
EGFR	19	*E746_T751>I	2235_2252>AAT	13551	ASO-6014	ASO-5014
EGFR	19	*K745_E749delKELRE	2233_2247del15	26038	ASO-6015	ASO-5015
EGFR	19	E746_A750delELREA	2235_2249del15	6223	ASO-6016	ASO-5016
EGFR	19	*E746_A750delELREA	2236_2250del15	6225	ASO-6017	ASO-5017
EGFR	19	*L747_T751>P	2239_2251>C	12383	ASO-6018	ASO-5018
EGFR	19	*L747_T751>S	2240_2251del12	6210	ASO-6019	ASO-5019
EGFR	19	*L747_T751>Q	2238_2252>GCA	12419	ASO-6020	ASO-5020
EGFR	19	*L747_A750>P	2239_2248>C	12382	ASO-6021	ASO-5021
EGFR	19	*L747_A750>P	2238_2248>GC	12422	ASO-6022	ASO-5022
EGFR	19	*L747_E749delLRE	2239_2247del9	6218	ASO-6023	ASO-5023
EGFR	19	*E746_A750>IP	2235_2248>AATTC	13550	ASO-6024	ASO-5024
EGFR	20	S768I	2303G>T	6241	ASO-6025	ASO-5025
EGFR	20	V769_D770insASV	2307_2308insGCCAGCGTG	12376	ASO-6026	ASO-5026
EGFR	20	*D770_N771insG	2310_2311insGGT	12378	ASO-6027	ASO-5027
EGFR	20	*H773_V774insH	2319_2320insCAC	12377	ASO-6028	ASO-5028
EGFR	20	T790M	2369C>T	6240	ASO-6029	ASO-5029
EGFR	21	L858R	2573T>G	6224	ASO-6030	ASO-5030
EGFR	21	L861Q	2582T>A	6213	ASO-6031	ASO-5031
KRAS	2	G12C	34G>T	516	ASO-6032	ASO-5032
KRAS	2	G12S	34G>A	517	ASO-6033	ASO-5033
KRAS	2	G12R	34G>C	518	ASO-6034	ASO-5034
KRAS	2	G12V	35G>T	520	ASO-6035	ASO-5035
KRAS	2	G12D	35G>A	521	ASO-6036	ASO-5036
KRAS	2	G12A	35G>C	522	ASO-6037	ASO-5037
KRAS	2	*G13C	37G>T	527	ASO-6038	ASO-5038
KRAS	2	*G13S	37G>A	528	ASO-6039	ASO-5039
KRAS	2	*G13R	37G>C	529	ASO-6040	ASO-5040
KRAS	2	G13D	38G>A	532	ASO-6041	ASO-5041
KRAS	2	*G13A	38G>C	533	ASO-6042	ASO-5042
KRAS	2	*G13V	38G>T	534	ASO-6043	ASO-5043
BRAF	15	V600K	1798_1799GT>AA	473	ASO-6044	ASO-5044
BRAF	15	V600R	1798_1799GT>AG	474	ASO-6045	ASO-5045
BRAF	15	*V600E	1799_1800TG>AA	475	ASO-6046	ASO-5046
BRAF	15	V600E	1799T>A	476	ASO-6047	ASO-5047
BRAF	15	*V600D	1799_1800TG>AT	477	ASO-6048	ASO-5048
BRAF	15	V600M	1798G>A	1130	ASO-6049	ASO-5049
BRAF	15	V600G	1799T>G	6137	ASO-6050	ASO-5050

***ASC Exclusive!**

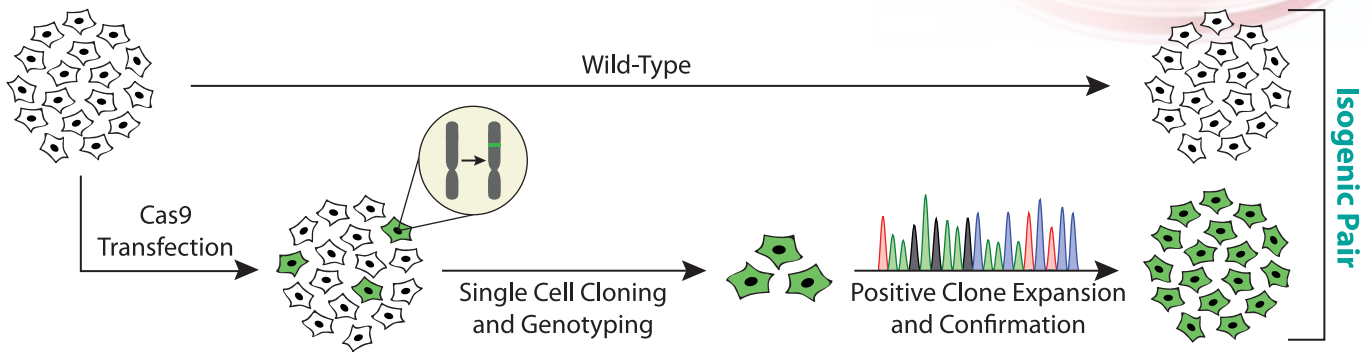
Bulk and Collaborator Pricing Available. Inquire to info@appliedstemcell.com

Custom Services

Isogenic Cell Line Generation

ASC can utilize CRISPR/Cas9 technology to engineer custom isogenic cell lines for your research needs.

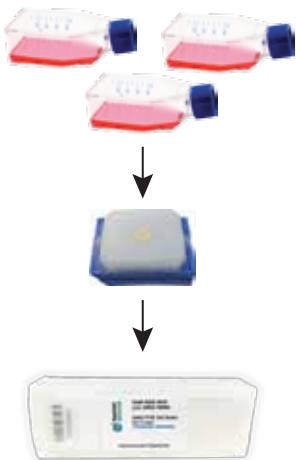
- ✓ **Clonally Homogeneous**
- ✓ **Genetically Validated**
- ✓ **Homozygous Modification**



Custom FFPE Services

Ship us your cell lines, and ASC can generate custom FFPE blocks, slides, or scrolls. For slide generation, both single-spotting and multi-spotting services are available

- ✓ **Consistent**



- ✓ **Reproducible**

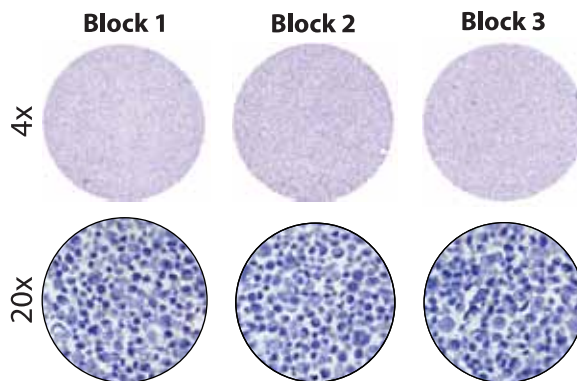


Figure 1. Three separate batches of FFPE blocks were generated using the KRAS G12V mutant cell line. Blocks were sectioned at 5 um thickness, mounted on microscopy slides, stained with haematoxylin, and imaged by optical microscopy. All blocks showed very high uniformity in both cross-sectional coverage and cell packing density.

- ✓ **Reliable**

Detection of BRAF V600E by qPCR

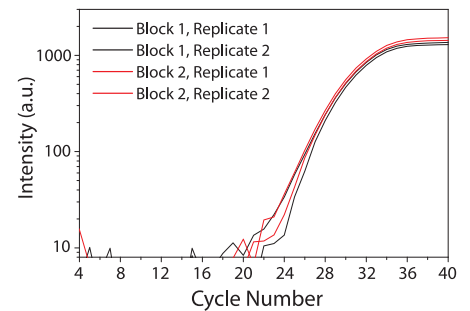


Figure 2. Two separate batches of FFPE blocks were sectioned and used for qPCR to detect BRAF V600E. The two separate batches showed very high reproducibility.

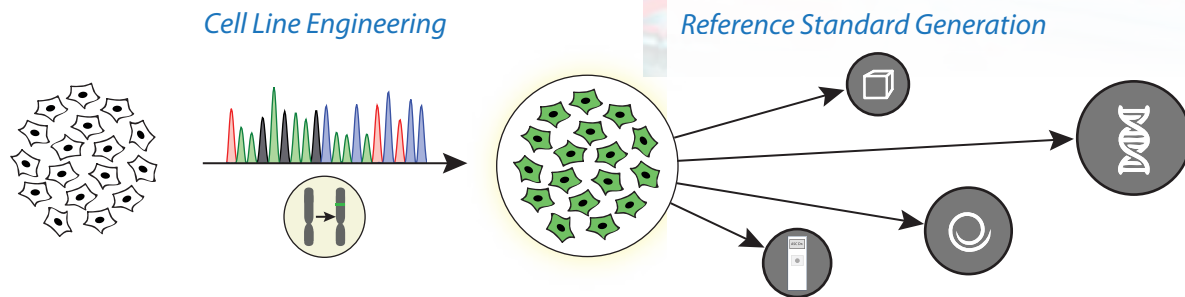
Become Part of Our Expanding Client Network

ASC works with over 1,000 clients, worldwide, ranging from academic research labs to biotech start-ups and pharmaceutical leaders. We provide the highest quality products and services to help accelerate your scientific discoveries.

Custom Reference Standard Services: Cell Line Engineering and Custom FFPE

Overview:

ASC offers custom cell line engineering and custom FFPE services to help you meet your reference standard needs.



Benefits:

- Generate reference materials for the mutations that are of highest importance to your own research
- Develop reference materials for pairing drug discovery with companion diagnostic development
- Multiplex samples on a single slide using our FFPE multi-spotting capabilities
- Control every aspect of your assay workflow using homogeneous and consistent FFPE blocks

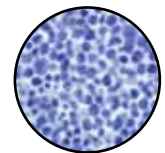
Formats:

- **FFPE Slides:** Custom FFPE slides are the perfect solution to your IHC and ISH application needs. ASC offers both single-spotting and custom multi-spotting services.
- **FFPE Scrolls:** Custom FFPE scrolls can be used as reference materials for assay development, quality control, or routine monitoring of laboratory practices.
- **FFPE Blocks:** Full FFPE blocks provide you with bulk material for the generation of your own FFPE slides and scrolls

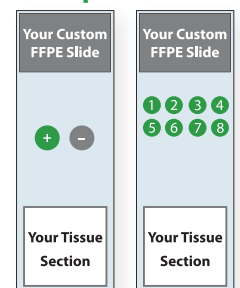
Applications:

FFPE cell blocks can be used as a consistent source of controls for immunohistochemistry (IHC), *in situ* hybridization (ISH), qPCR, sequencing, and other molecular diagnostics applications. Our FFPE cell pellets are prepared using a patent-pending process that generates highly homogenous FFPE blocks with any cell density (up to 90% area coverage).

Consistent and Uniform Cell Blocks



Multipotting Capabilities



Perfect Materials for Assay Development and Optimization

