Aurora Biolabs

KRAS Inhibitor Screening TR-FRET Assay Kits

Accelerating Drug Discovery

Why Choose Aurora Biolabs TR-FRET Inhibitor Screening Assay Kits?

Proven Convenience

- All reagents & rxn plate included.

Components			
Catalog number	**Item**	**Amount**	**Storage**
5727-CK-B	2X Kras Binding buffer	25 mL	-20°C
5727-4121-T2P	Recombinant human Tag2-Kras (WT), GppNHp loaded	15 µL	-80°C
5272-2972	Recombinant Cyclophilin A (CYPA)	200 µL	-80°C
7237231-T1	Recombinant human Tag1-cRAF, RBD	8 µL	-80°C
37882	Terbium-labeled anti-Tag2 antibody	20 µL	-80°C
44732	Fluorescence labeled anti-Tag1 antibody	20 µL	-80°C
	384-well microplate	1	Room temperature

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	384-well microplate	1	Room temperature

Proven Procedure

- Optimized step-by-step protocols provided.

Protocol Summary			
Component	**Negative Control**	**Positive Control**	**Inhibitor Test**
AB buffer	4 µl		
Kras (WT) protein		4 µl	4 µl
CD Buffer	2 µl	2 µl	
Inhibitor solution			2 µl
cRAF protein	4 µl	4 µl	4 µl
Dye solution	10 µl	10 µl	10 µl
Total Volume	**20 µl**	**20 µl**	**20 µl**
Incubate at room temperature for 30 minutes.			

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Sensitivity Guaranteed

- TR-FRET Asssy is well known to be more sensitive than traditional enzyme-based assays due to the lanthanide-based donor fluorophores, which have long fluorescence lifetimes, and time-resolved detection, which minimizes background fluorescence interference.

High Throughput Capable

- TR-FRET Asssy can be run in 384-well plates and easily automated on different platforms.

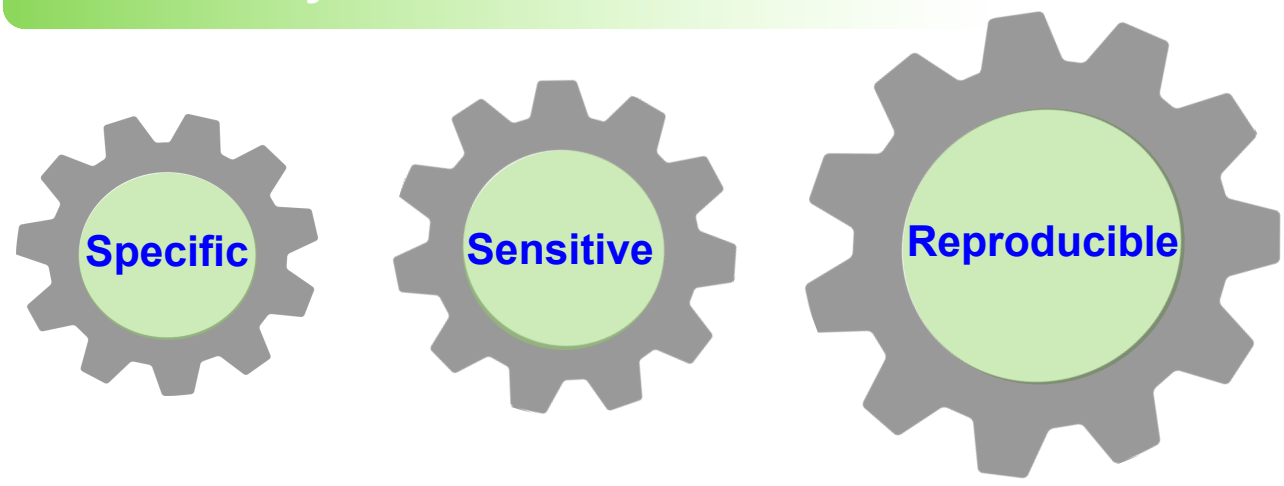
Unparalleled Technical Support

- Our assay scientists and developers have decades of experience working on assays for drug discovery and optimization. Assay-related issues are quickly answered and resolved by the same scientists and developers, who have intimate and expert knowledge on the assays and can address any issues with speed and accuracy.

Introduction

The KRAS gene was discovered as part of the Kirsten murine sarcoma virus in 1967. In the 1980s, it was established as an oncogene when mutated KRAS genes were shown to turn normal cells into cancerous ones. Since the time it was established as an oncogene to recent years, KRAS is known to be a difficult drug target, bordering on “undruggable”. It was not until 2021 that the first KRAS drug (sotorasib) was approved by the FDA, more than half a century since the KRAS gene was discovered.
Aurora Biolabs LLC and its protein structure determination sister company, Structure Based Design (SBD), Inc. have been helping researchers and companies make KRAS druggable since 2007. Aurora Biolabs and SBD have been instrumental in developing KRAS screening assays and solving KRAS crystal structures and KRAS-drug co-structures for Amgen’s AMG510 (sotorasib) and Mirati’s MRTX1133.

KRAS Assay Features



KRAS-cRAF-CYPA-Inhibitor Assays

Fig.1

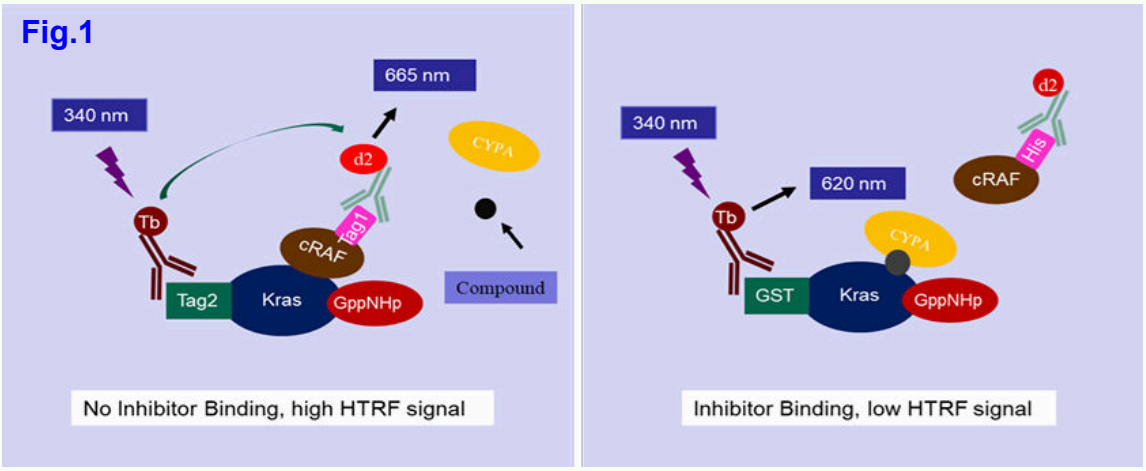


Fig.2

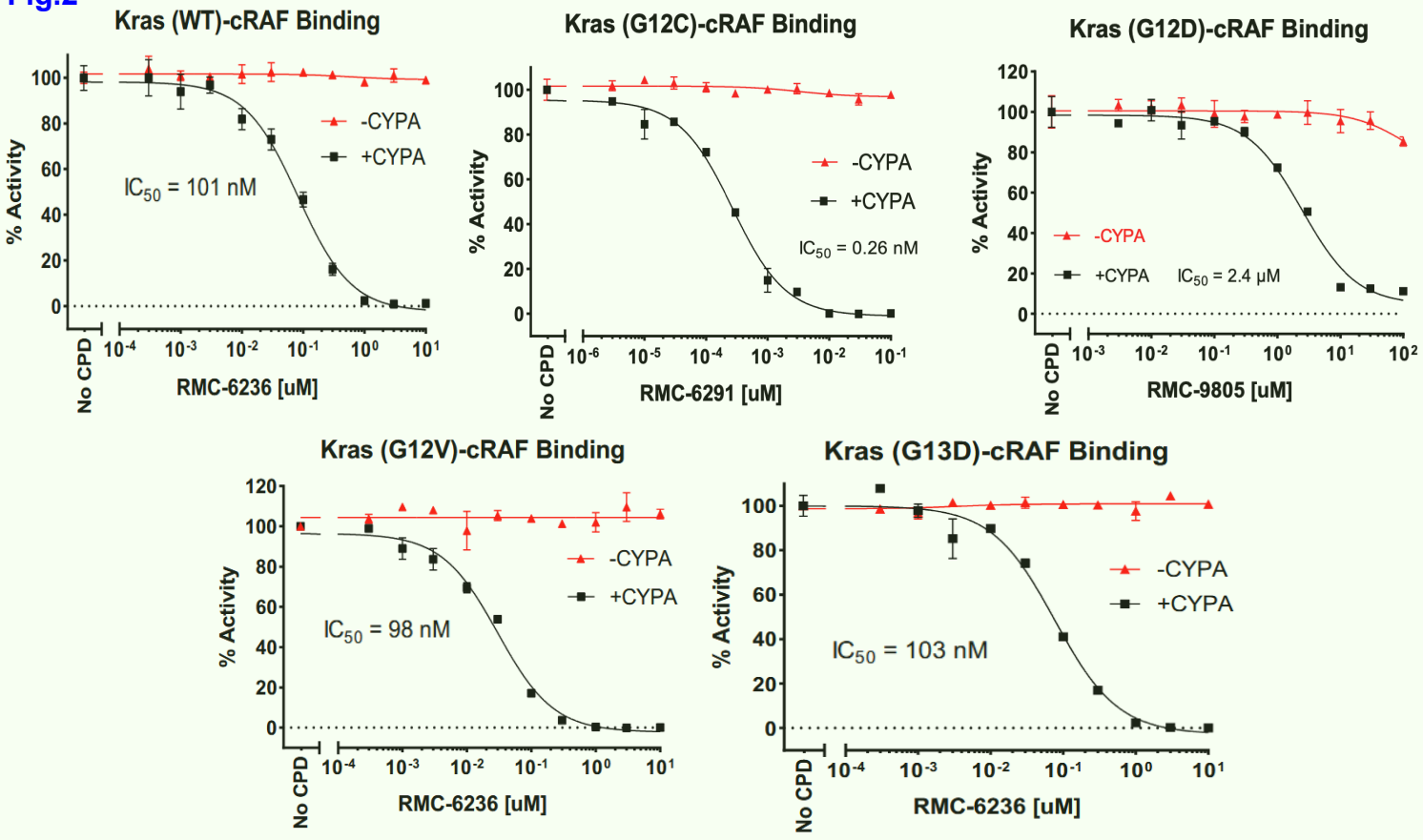


Fig. 1: Graphical representation of KRAS-cRAF-CYPA-Inhibitor assay's working mechanism.
Fig. 2: Results from the binding assays of KRAS WT, G12C, G12D, G12V, and G13D at different concentrations of RMC inhibitors.
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KRAS Nucleotide Exchange Assays

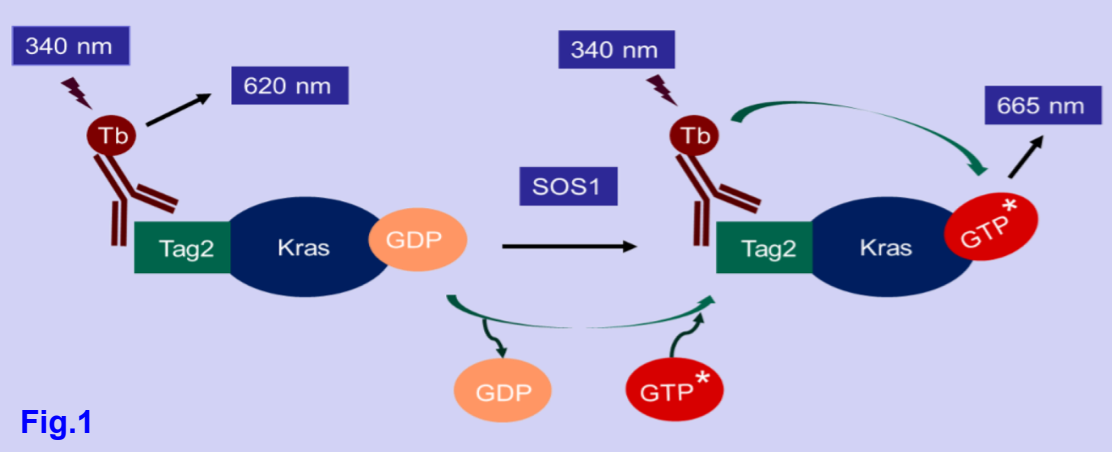

Fig.1

Fig.2

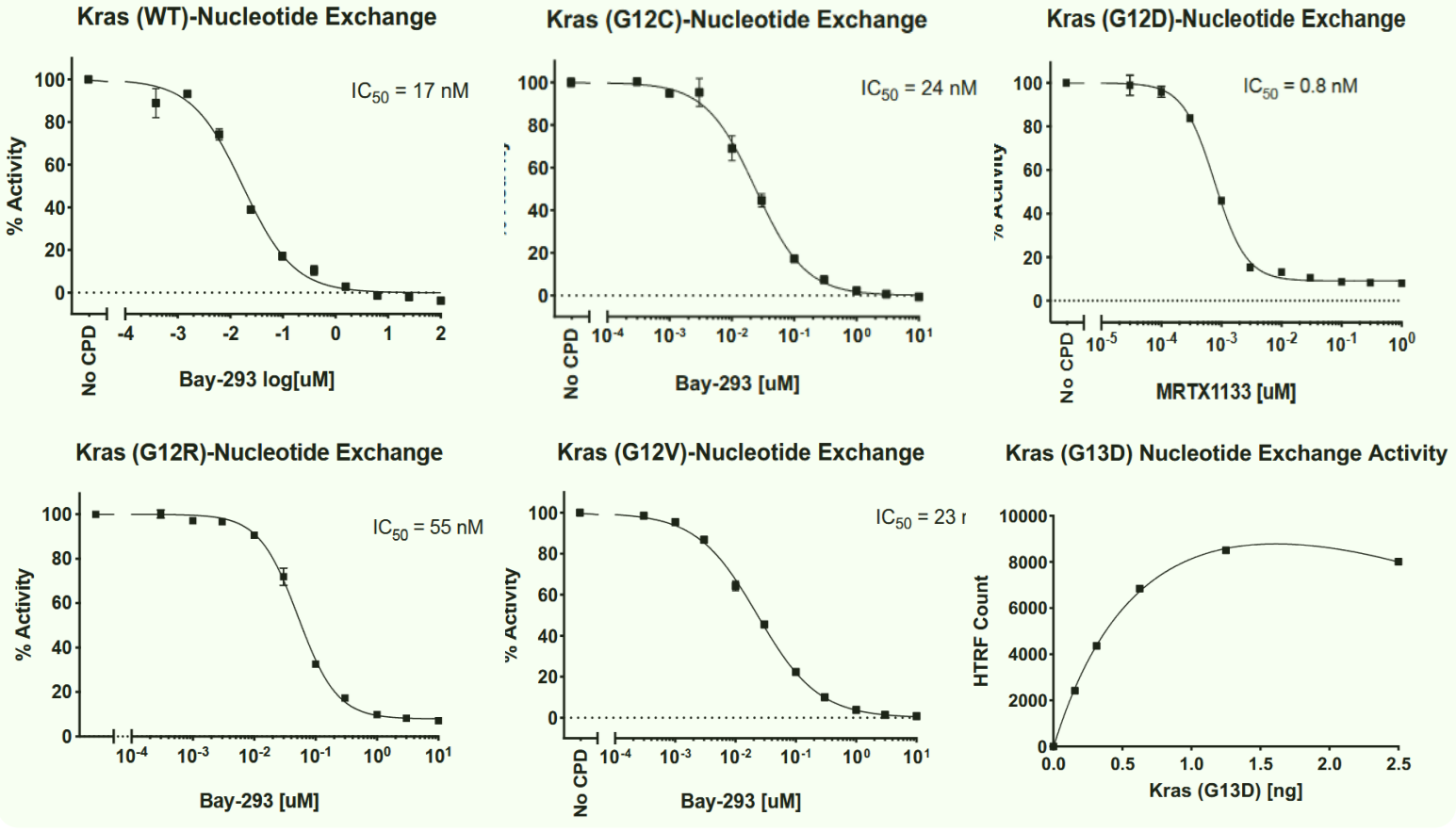

Fig. 1: Graphical representation of Nucleotide Exchange Assay's working mechanism.
Fig. 2: Results from the nucleotide exchange assays of KRAS WT, G12C, G12D, G12R, G12V, and G13D at different concentrations of MRTX1133 and Bay-293 inhibitors.
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KRAS-cRAF Binding Assays

Fig.1

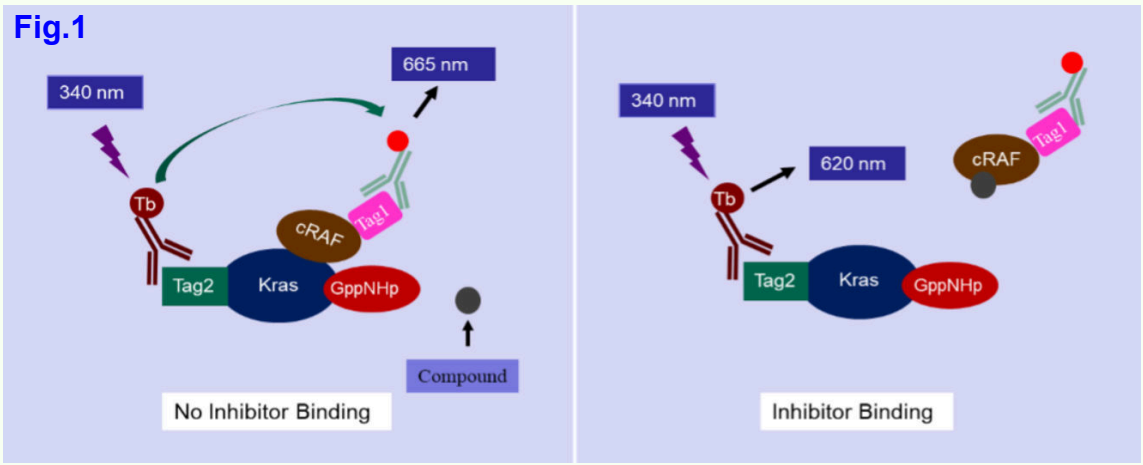

Fig.2

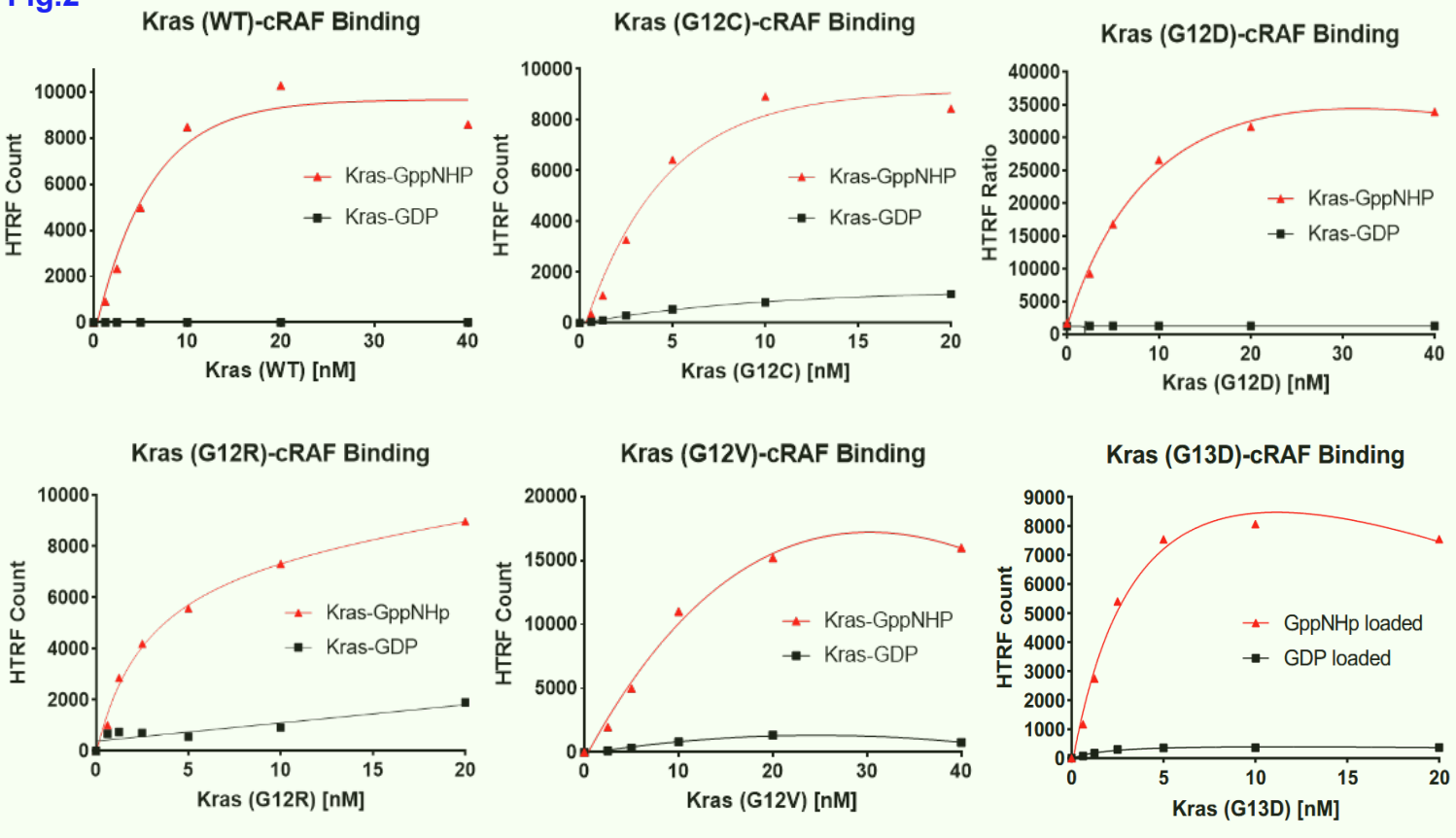

Fig. 1: Graphical respresentation of KRAS-cRAF Binding Assay's working mechanism.
Fig. 2: Results from the binding assays of KRAS WT, G12C, G12D, G12R, G12V, and G13D at different concentrations of KRAS.
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TR-FRET Assays Catalog

CATALOG NUMBER	ASSAY KITS	SIZE
5727-4121CK	Kras WT/cRAF/CYPA/Inhibitor Assay Kit	384 reactions
5727-4122CK	Kras G12C/cRAF/CYPA/Inhibitor Assay Kit	384 reactions
5727-4123CK	Kras G12D/cRAF/CYPA/Inhibitor Assay Kit	384 reactions
5727-4128CK	Kras G12V/cRAF/CYPA/Inhibitor Assay Kit	384 reactions
5727-4133CK	Kras G13D/cRAF/CYPA/Inhibitor Assay Kit	384 reactions
5727-4121NK	Kras WT Nucleotide Exchange Assay Kit	384 reactions
5727-4122NK	Kras G12C Nucleotide Exchange Assay Kit	384 reactions
5727-4123NK	Kras G12D Nucleotide Exchange Assay Kit	384 reactions
5727-4127NK	Kras G12R Nucleotide Exchange Assay Kit	384 reactions
5727-4128NK	Kras G12V Nucleotide Exchange Assay Kit	384 reactions
5727-4133NK	Kras G13D Nucleotide Exchange Assay Kit	384 reactions
5727-4121BK	Kras WT–cRAF Binding Assay Kit	384 reactions
5727-4122BK	Kras G12C–cRAF Binding Assay Kit	384 reactions
5727-4123BK	Kras G12D–cRAF Binding Assay Kit	384 reactions
5727-4127BK	Kras G12R–cRAF Binding Assay Kit	384 reactions
5727-4128BK	Kras G12V–cRAF Binding Assay Kit	384 reactions
5727-4133BK	Kras G13D–cRAF Binding Assay Kit	384 reactions

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