

Solid Tumor NGS Panel: Resumption of In-House Testing and Change in Assay Platform

Date: April 30th, 2025

Effective Date: July 16th, 2025

The Molecular Diagnostic Laboratory will resume in-house testing for solid tumor NGS. Prior to the use of the Mayo Complete Solid Tumor Panel (MCSTP) for send-outs, the laboratory previously conducted testing with the Thermo Fisher Oncomine Focus Assay (STMP). Starting July 16th, 2025, testing will be performed in-house using the Oncomine Precision Assay (OPAST).

OPAST will be run on the Thermo Fisher Genexus platform, which provides advantages such as a highly automated workflow and significantly faster turnaround times.

OPAST expands coverage from 35 genes to 45 genes. The new panel includes coverage of hotspot regions in the following genes: *AKT2*, *AKT3*, *ARAF*, *CDKN2A*, *CHEK2*, *FGFR1*, *FGFR4*, *FLT3*, *GNAS*, *NTRK1*, *NTRK2*, *NTRK3*, *PTEN*, and *TP53*. Genes that were covered by STMP but no longer covered by OPAST are *DDR2*, *JAK1*, *JAK2*, and *JAK3*.

Oncomine Precision Assay Gene List:

DNA Hotspots				
<i>AKT1</i>	<i>CHEK2</i>	<i>FGFR3</i>	<i>KIT</i>	<i>NTRK3</i>
<i>AKT2</i>	<i>CTNNB1</i>	<i>FGFR4</i>	<i>KRAS</i>	<i>PDGFRA</i>
<i>AKT3</i>	<i>EGFR</i>	<i>FLT3</i>	<i>MAP2K1</i>	<i>PIK3CA</i>
<i>ALK</i>	<i>ERBB2</i>	<i>GNA11</i>	<i>MAP2K2</i>	<i>PTEN</i>
<i>AR</i>	<i>ERBB3</i>	<i>GNAQ</i>	<i>MET</i>	<i>RAF1</i>
<i>ARAF</i>	<i>ERBB4</i>	<i>GNAS</i>	<i>MTOR</i>	<i>RET</i>
<i>BRAF</i>	<i>ESR1</i>	<i>HRAS</i>	<i>NRAS</i>	<i>ROS1</i>
<i>CDK4</i>	<i>FGFR1</i>	<i>IDH1</i>	<i>NTRK1</i>	<i>SMO</i>
<i>CDKN2A</i>	<i>FGFR2</i>	<i>IDH2</i>	<i>NTRK2</i>	<i>TP53</i>

Note: Please request OPAST along with GNFS (Lung Cancer Gene Fusion Panel) when appropriate.

For any questions, please contact:

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