

**Table 1.** Results of exhaustive genomic profiling, next generation sequencing (NGS) of 65 genes [Ion Torrent technology (Life Technologies, Carlsbad, CA)], methylation profiling and immunohistochemistry (IHC) of the tumor tissue (OncoDEEP<sup>®</sup>) from both patients.

<b>Patient 1</b>		
<b>NGS</b>		
<b>Variants</b>	<b>N</b>	
<b>Probably polymorphism</b>	1	PIK3CA p.I391M
<b>IHC</b>		
<b>Protein/Biomarker</b>	<b>Expression</b>	<b>Clinical Impact</b>
<b>P16</b>	Positive	Potential lack of clinical benefits of CDK4/6 inhibitors
<b>CDK4</b>	Negative	Potential lack of clinical benefits of CDK4 inhibitors
<b>phosphoRb</b>	Negative	Potential lack of clinical benefits of CDK4/6 inhibitors
<b>Fusion panel (ALK/ROS1/RET)</b>	Negative	Potential lack of clinical benefits of Crizotinib
<b>MGMT methylation</b>	<i>Positive</i>	<i>Potential clinical benefits of temozolomide</i>
<b>CD8</b>	Negative	Potential lack of clinical benefits of PD-1/PD-L1 inhibitors
<b>PD-L1</b>	Low	Potential lack of clinical benefits of PD-1/PD-L1 inhibitors
<b>p4EBP1</b>	Low	Potential lack of clinical benefits of mTOR inhibitors
<b>PTEN</b>	Positive	Potential lack of clinical benefits of PIK3CA and/or mTOR inhibitors
<b>VEGF</b>	Positive	Treatment based on angiogenesis inhibitors associated with undetermined clinical benefit in paraganglioma
<b>VEGFR2</b>	Low	Potential lack of clinical benefits of VEGFR2 inhibitors

<b>Patient 2</b>		
<b>NGS</b>		
<b>Variants</b>	<b>N</b>	
<b>Variants of Uncertain Significance (VUS)</b>	1	KDR p.R961Q
<b>Probably polymorphism</b>	1	DPYD p.S534N
<b>IHC</b>		

<b>Protein/Biomarker</b>	<b>Expression</b>	<b>Clinical Impact</b>
<b>P16</b>	Negative	Potential clinical benefits of CDK4/6 inhibitors
<b>CDK4</b>	Moderate	Potential clinical benefits of CDK4 inhibitors
<b>phosphoRb</b>	Positive	Potential clinical benefits of CDK4/6 inhibitors
<b>Fusion panel (ALK/ROS1/RET)</b>	Negative	Potential lack of clinical benefits of Crizotinib
<b><i>MGMT methylation</i></b>	<b><i>Positive</i></b>	<b><i>Potential clinical benefits of temozolomide</i></b>
<b>CD8</b>	Negative	Potential lack of clinical benefits of PD-1/PD-L1 inhibitors
<b>PD-L1</b>	Low	Potential lack of clinical benefits of PD-1/PD-L1 inhibitors
<b>p4EBP1</b>	Low	Potential lack of clinical benefits of mTOR inhibitors
<b>PTEN</b>	Positive	Potential lack of clinical benefits of PIK3CA and/or mTOR inhibitors
<b>VEGF</b>	Negative	Potential lack of clinical benefits of angiogenesis inhibitors