PI3K/mTOR Dual Inhibitor NVP-BGT226

**Chemical Name:** 8-(6-methoxypyridin-3-yl)-3-methyl-1-(4-(3-(trifluoromethyl)piperazin-1-yl)phenyl)-1H-imidazo[4,5-c]quinolin-2(3H)-one

<table>
<thead>
<tr>
<th>Molecular Weight:</th>
<th>534.53</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula:</td>
<td>C_{28}H_{25}F_{3}N_{6}O_{2}</td>
</tr>
<tr>
<td>Purity:</td>
<td>≥98%</td>
</tr>
<tr>
<td>CAS#:</td>
<td>1245537-68-1</td>
</tr>
<tr>
<td>Solubility:</td>
<td>DMSO up to 50mM</td>
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</tbody>
</table>
| Storage:          | Powder: 4°C 1 year  
                        DMSO: 4°C 3 month  
                                -20°C 1 year |

**Biological Activity:**

NVP-BGT226 is a novel dual PI3K/mTOR inhibitor with an IC\textsubscript{50} \approx 1 \text{nM}. In cellular assays it could produce nearly complete inhibition of PI3K signaling at low nanomolar (<50 \text{nM}) concentrations. Flow cytometric analysis revealed an accumulation of cells in the G0–G1 phase with a concomitant loss in the S-phase. TUNEL assay and the analysis of Caspase 3/7 and PARP indicated that BGT226 induced cancer cell death through an apoptosis independent pathway. BGT226 induced autophagy as indicated by the aggregation and upregulation of the microtubule-associated protein light chain 3B-II, and p62 degradation. It is in the phase I/II clinical trials for the treatment of advanced solid tumors.

**How to Use:**

**In vitro:** BGT226 was used at 0.2 \text{µM} concentration in cellular assays to investigate its effects on the PI3K/AKT signaling pathways.

**In vivo:** BGT226 was dissolved in 90\% NMP/10\% PEG300 and orally dosed at 5mg/Kg once a day.

**Reference:**


Products are for research use only. Not for human use.