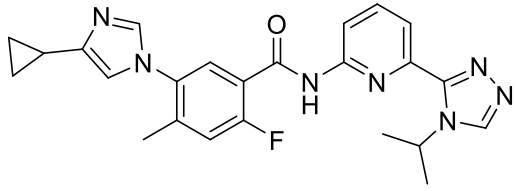




## Certificate of Analysis

<b>MedKoo Cat#:</b> 206450	<b>Product Name:</b> Selonsertib (GS-4997)	<b>Lot#:</b> SSC60722
-------------------------------	---	--------------------------

<b>Chemical name</b>	
5-(4-cyclopropyl-1H-imidazol-1-yl)-2-fluoro-N-(6-(4-isopropyl-4H-1,2,4-triazol-3-yl)pyridin-2-yl)-4-methylbenzamide	
<b>Synonyms</b>	
GS-4997; GS4997; GS 4997; Selonsertib	
<b>Chemical structure</b>	<b>CAS# and Theoretical analysis</b>
	MedKoo Cat#: 206450 Name: Selonsertib (GS-4997) CAS#: 1448428-04-3 Lot#SSC60722 Chemical Formula: C <sub>24</sub> H <sub>24</sub> FN <sub>7</sub> O Exact Mass: 445.20264 Molecular Weight: 445.5

Analysis item	Specifications / Results
<b>Appearance</b>	White to off-white solid powder
<b>Structure</b>	<sup>1</sup> H-NMR analysis matches the structure. MS analysis gives the correct molecule weight. Both NMR and MS data are consistent with those reported in the literature.
<b>Purity (HPLC)</b>	>95.0%
<b>Solubility</b>	Soluble in DMSO
<b>Conclusion</b>	This product conforms with MedKoo's quality standards
<b>Shipping condition</b>	Shipped under ambient temperature as non-hazardous chemical. This product is stable for a few weeks during ordinary shipping and time spent in customs.
<b>Storage condition</b>	Short term storage (weeks): 0 – 4 °C under dry condition Long term storage (months): -20 °C under dry condition
<b>Shelf life</b>	At least 5 years if properly stored.

**CAUTION: NOT FULLY TESTED. FOR RESEARCH ONLY, NOT FOR HUMAN USE**

## Statement of possible tautomerization in selonsertib

We followed literature (WO2013112741 A1) to synthesize selonsertib (GS4977).

NMR analysis in CDCl<sub>3</sub> and DMSO-d<sub>6</sub> confirmed the correct structure with excellent purity.

Depending on methods/conditions used, HPLC and LC/MS analysis may show two peaks in a ratio of ~ 95: 5. Both peaks showed the same molecule weight.

Based on the QC test results, we believe that selonsertib (GS4977) may exist two tautomers through amide bond tautomerization. The major isomer is ~ 95%, the minor isomer is ~ 5%. Total purity is > 99%. In general, amide bond tautomerization is not detectable using regularly analytic methods. However, in selonsertib (GS4977) molecule, the amide bond tautomerization may be stabilized by intramolecularly hydrogen bonding (F---H—O) see the scheme below.

