# PRODUCT INFORMATION

## GSK3β Inhibitor II

*Item No. 19077*

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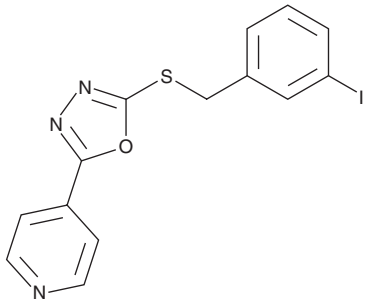
| **CAS Registry No.:** | 478482-75-6 |
| **Formal Name:** | 4-[5-[[(3-iodophenyl)methyl]thio]-1,3,4-oxadiazol-2-yl]-pyridine |
| **Synonym:** | Glycogen Synthase Kinase 3β Inhibitor II, Tip-oxadiazole |
| **MF:** | $C_{14}H_{10}IN_3OS$ |
| **FW:** | 395.2 |
| **Purity:** | ≥95% |
| **UV/Vis.:** | $\lambda_{max}$: 282 nm |
| **Supplied as:** | A crystalline solid |
| **Storage:** | -20°C |
| **Stability:** | ≥4 years |




*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*

### Laboratory Procedures

GSK3β inhibitor II is supplied as a crystalline solid. A stock solution may be made by dissolving the GSK3β inhibitor II in the solvent of choice. GSK3β inhibitor II is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of GSK3β inhibitor II in these solvents is approximately 3 and 10 mg/ml, respectively.

GSK3β inhibitor II is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, GSK3β inhibitor II should first be dissolved in DMF and then diluted with the aqueous buffer of choice. GSK3β inhibitor II has a solubility of approximately 0.09 mg/ml in a 1:10 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

GSK3β Inhibitor II is a potent inhibitor of glycogen synthase kinase 3β (GSK3β; $IC_{50}$ = 390 nM) that does not inhibit GSK3α.[1] Also referred to as tip-oxadiazole, this compound blocks the functional regulation of p53 by GSK3β, decreasing levels of MDM2, p21, and Bax and modulating mitochondrial p53 apoptotic signaling.[2] GSK3β Inhibitor II also blocks GSK3β-mediated Tau phosphorylation and $Aβ_{25-35}$-induced memory impairment in mouse hippocampus.[3]

### References


1. Naerum, L., Nørskov-Lauritsen, L., and Olesen, P. H. Scaffold hopping and optimization towards libraries of glycogen synthase kinase-3 inhibitors. *Bioorg. Med. Chem. Lett.* **12(11)**, 1525-1528 (2002).
2. Watcharasit, P., Bijur, G. N., Song, L., *et al.* Glycogen synthase kinase-3β (GSK3β) binds to and promotes the actions of p53. *J. Biol. Chem.* **278(49)**, 49972-48879 (2003).
3. Lahmy, V., Meunier, J., Malmström, S., *et al.* Blockade of Tau hyperphosphorylation and Aβ1-42 generation by the aminotetrahydrofuran derivative ANAVEX2-73, a mixed muscarinic and σ1 receptor agonist, in a nontransgenic mouse model of Alzheimer's disease. *Neuropsychopharmacology* **38(9)**, 1706-1723 (2013).





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