**Chemical Properties**

**Product Name:** GSK481  
**Cas No.:** 1622849-58-4  
**M.Wt:** 377.39  
**Formula:** C21H19N3O4

**Chemical Name:** (S)-5-benzyl-N-(5-methyl-4-oxo-2,3,4,5-tetrahydrobenzo[b][1,4]oxazepin-3-yl)isoxazole-3-carboxamide  
**Canonical SMILES:** O=C(C1=NOC(CC2=CC=CC=C2)=C1)N[C@H]3COC4=CC=CC=C4N(C)C3 =O

**Solubility:** Soluble in DMSO  
**Storage:** Store at -20°C  
**General tips:** For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

**Shopping Condition:** Evaluation sample solution: ship with blue ice  
All other available size: ship with RT, or blue ice upon request

**Biological Activity**

**Targets:** Apoptosis  
**Pathways:** TNF-α

**Description:**  
IC50: 1.3 nM for RIP1  
GSK481 is a receptor interacting protein kinase 1 (RIP1) inhibitor. The role of RIP1 kinase in tumor necrosis factor mediated inflammation has resulted in its emergence as a promising target for the treatment of multiple inflammatory diseases.
In vitro: Previous study showed that GSK481 could not only trigger an increase in biochemical activity but also exhibit great translation in the U937 cellular assay with IC50 of 10 nM. Moreover, GSK481 also showed complete specificity for RIP1 kinase against all other tested kinases when profiled over both a P33 radiolabeled assay screen. In tight-binding ADP-Glo IC50 evaluation with increasing ATP concentration, GSK481 exhibited a shift to lower potency, which was corresponding to a competitive model. In addition, GSK481 was also found to be a potent inhibitor of S166 phosphorylation in wild-type human RIP1 but was ineffective at reducing S166 phosphorylation for wild-type mouse RIP1. GSK481 was also able to more potently inhibit Ser166 phosphorylation in all three tested mouse RIP1 mutants than in wild-type mouse [1].

In vivo: So far, there is no animal in vivo data reported for GSK481.

Clinical trial: Up to now, GSK481 is still in the preclinical development stage.

Reference: