

Product Data Sheet

Product Name: AS 1949490

Cat. No.: GC13516

Chemical Properties

Cas. No. 1203680-76-5

Chemical Name (S)-3-((4-chlorobenzyl)oxy)-N-(1-phenylethyl)thiophene-2-carboxamide

SMILES ClC1=CC=C(C=C1)COC2=C(C(N[C@@H](C)C3=CC=CC=C3)=O)SC=C2

Formula $C_{20}H_{18}ClNO_2S$

M.Wt 371.88

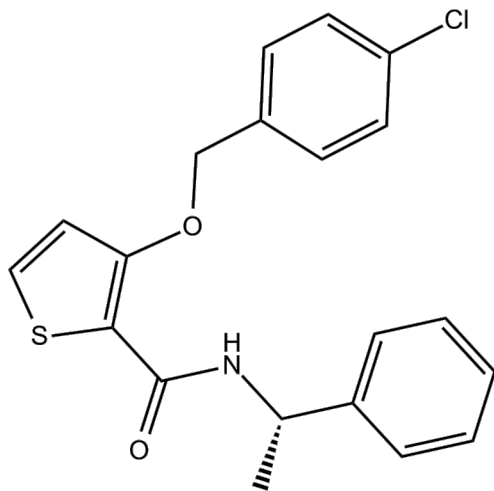
Solubility $\geq 11.6\text{mg/mL}$ in DMSO

Storage Store at RT

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.

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

Structure



Caution: Product has not been fully validated for medical applications. For research use only.

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Background

AS 1949490 is a selective inhibitor of Src homology 2 domain-containing inositol-5-phosphatase 2 (SHIP2), [1] with IC₅₀ values of 0.34 μ M and 0.62 μ M to mouse and human SHIP2s, respectively [2].

SHIP2 is an intracellular phosphatase and appears to be important in insulin signaling as a negative regulator. SHIP2 has potential to act as a treatment for type 2 diabetes because of its inhibition [2].

Akt is a key enzyme to regulated insulin signaling. AS 1949490 treatment dose-dependently increased insulin-induced phosphorylation of Akt in L6 myotubes, but did not result in any associated changes in the overall level of Akt protein and the fetal bovine serum-induced phosphorylation of Akt. Treatments with AS 1949490 at several concentrations of and 1 nM insulin for 48 h, showed more consumption of glucose in the medium in a concentration-dependent manner [2].

In diabetic db/db mice, administered with AS 1949490 twice daily p.o. for 7 or 10 days significantly decreased plasma glucose (23% reduction, relative to vehicle), without affecting insulin levels, food intake or body weight. In the 10th day, treatment with AS 1949490 resulted in significant reduction in both the area under the blood glucose concentration time curve (AUC) and fasting blood glucose (37% reduction, compared with vehicle; time = -30 min) [2].

References:

- [1]. Laura Beth J. McIntire, Kyu-In Lee, Belle Chang-Ileto, et al. Screening assay for small molecule inhibitors of synaptojanin 1, a synaptic phosphoinositide phosphatase. J Biomol Screen, 2014, 19(4):585-594.
- [2]. A Suwa, T Yamamoto, A Sawada, et al. Discovery and functional characterization of a novel small molecule inhibitor of the intracellular phosphatase, SHIP2. British Journal of Pharmacology, 2009, 158:879-887.

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