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## Product Data Sheet

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Product Name: TC-SP 14

Cat. No.: GC17019

### Chemical Properties

Cas. No. 1257093-40-5

Chemical Name 1-(3-fluoro-4-(5-(2-fluorobenzyl)benzo[d]thiazol-2-yl)benzyl)azetidine-3-carboxylic acid

SMILES FC1=CC=CC=C1CC2=CC(N=C3C4=C(F)C=C(CN5CC(C(O)=O)C5)C=C4)=C(S3)C=C2Formula  $C_{25}H_{20}F_2N_2O_2S$ 

M.Wt 450.5

Solubility &lt;22.52mg/ml in DMSO

Storage Desiccate 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 

### Background

EC50: 0.042 μM for hS1P1

TC-SP 14 is an agonist of Sphingosine-1-Phosphate Receptor 1 (S1P1).

Studies have revealed that the lysophospholipid sphingosine-1-phosphate (S1P1) is a pleiotropic modulator of diverse cellular processes. Such effects are reported to be mediated by the interactions of S1P with a set of paralogous G protein-coupled receptors, which are widely expressed in the immune, central nervous and cardiovascular systems.

In vitro: As a small lipophilic substituent proved equally effective to a larger substituent in reducing S1P3 activity, TC-SP 14 was screened. TC-SP 14 was found to be a potent S1P1 agonist (EC50 = 0.042 μM) with reduced activity for S1P3 (EC50 = 3.47 μM) [1].

In vivo: In Lewis rats, TC-SP 14 produced a dose-dependent reduction in circulating blood lymphocytes, which was consistent with S1P1 agonism. Moreover, statistical significance was shown at a dose of 0.3 mg/kg, and the dose of 3.0 mg/kg led to near maximal lymphopenia. TC-SP 14 was subsequently investigated in a DTH antigen challenge model. Results showed a statistically significant reduction in ear swelling at doses of 0.3 mg/kg and higher. In addition,

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reduced ear swelling was found to closely track circulating lymphocyte counts [1].

Clinical trial: N/A

Reference:

[1] Lanman BA, Cee VJ, Cheruku SR et al. Discovery of a Potent, S1P3-Sparing Benzothiazole Agonist of Sphingosine-1-Phosphate Receptor 1 (S1P1). ACS Med Chem Lett. 2010 Nov 9;2(2):102-6.

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