

Product Data Sheet

Product Name: S3969
Cat. No.: GC70343

Chemical Properties

Cas. No. 1027997-01-8

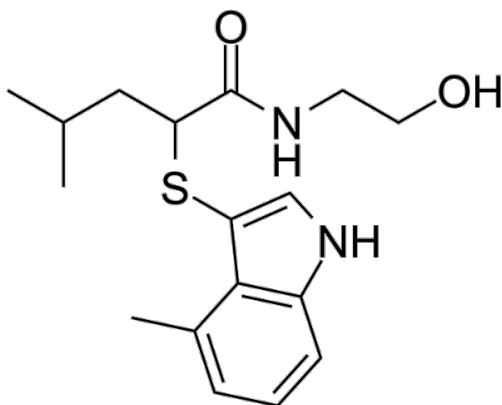
Formula $C_{17}H_{24}N_2O_2S$ M.Wt 320.45

Solubility DMSO : 100 mg/mL (312.06 mM); Storage -20°C
Need ultrasonic; Hygroscopic DMSO has a significant impact on the solubility of product, please use newly opened DMSO)

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

S3969 is a potent and reversible activator of the human epithelial sodium channel (hENaC). The apparent EC₅₀ for S3969 activation of hENaC is 1.2 μ m.

S3969 fully and reversibly activates hENaC in heterologous cells. S3969 activates $\delta\beta\gamma$, $\alpha\beta\gamma$, $\alpha2\beta\gamma$,

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

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$\delta 2\beta\gamma$, and $\alpha\beta G37S\gamma$ hENaC with EC_{50} s of $1.2\pm 0.2\ \mu M$, $1.2\pm 0.1\ \mu M$, 1.2 ± 0.5 , 0.4 ± 0.1 , and $1.2\pm 0.4\ \mu M$ [1].

S3969 does not activate $\alpha\beta\gamma$ mouse ENaC (mENaC) at concentrations yielding maximal activation of $\alpha\beta\gamma$ hENaC or $\delta\beta\gamma$ hENaC. Weak $\alpha\beta\gamma$ mENaC activation was observed at high concentrations of S3969 (100-300 μM) [1].

S3969 exhibits high efficacy (600-700% hENaC activation at 30 μM) as well as potency on wild-type hENaC (apparent $EC_{50} \sim 1\ \mu M$ for $\alpha\beta\gamma$ hENaC and $\delta\beta\gamma$ hENaC but not $\alpha\beta\gamma$ mENaC) [1].

ENaC-activator S3969 (10 μM) stimulates $\alpha F61L$ mutant ENaC more than wild-type ENaC [2].

References:

[1]. Min Lu, et al. Small molecule activator of the human epithelial sodium channel. J Biol Chem. 2008 May 2;283(18):11981-94.

[2]. Regina Huber, et al. Functional characterization of a partial loss-of-function mutation of the epithelial sodium channel (ENaC) associated with atypical cystic fibrosis. Cell Physiol Biochem. 2010;25(1):145-58.

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