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Store at RT
LY-364947

#54678 5 mg

For Research Use Only. Not for Use in Diagnostic Procedures.

Background

LY-364947, also known as HTS-466284, is a potent and selective TGF- β type-I receptor (TGF- β RI, TGFRI, T β R-I, ALK-5) inhibitor. This small molecule specifically targets TGF- β RI with an IC₅₀ value of 59 nM and is less effective on TGF- β RII and MLK-7K (IC₅₀ values of 400 nM and 1400 nM, respectively) (1). LY-364947 regulates MDA-MB-231 cell invasion by inhibiting autocrine TGF- β signaling (2). Patients in intensive care units (ICUs) that suffer from chronic sepsis can experience weakening of the diaphragm muscles caused by muscle wasting, requiring mechanical ventilation. Members of the TGF- β family can trigger the activation of protein breakdown. Inhibition of the TGF- β pathway can protect the diaphragm during chronic sepsis, making LY-364947 an interesting compound to study as it relates to effective ICU patient care (3).

Molecular Formula

C₁₇H₁₂N₄

Molecular Weight

272.3 g/mol

Purity

>98%

CAS

396129-53-6

Solubility

Soluble in DMSO at 25 mg/ml.

Storage

Store lyophilized at room temperature, desiccated. In lyophilized form, the chemical is stable for 24 months. Once in solution, store at -20°C and use within 3 months to prevent loss of potency. *Aliquot to avoid multiple freeze/thaw cycles.*

Directions for Use

LY-364947 is supplied as a lyophilized powder. For a 15 mM stock, reconstitute 5 mg of powder in 1.22 ml of DMSO. Working concentrations and length of treatment can vary depending on the desired effect.

Background References

1. Sawyer, J.S. et al. (2003) *J Med Chem* 46, 3953-6.
2. Shiou, S.R. et al. (2006) *J Biol Chem* 281, 33971-81.
3. Jude, B. et al. (2019) *Shock*, doi: 10.1097/SHK.0000000000001393.

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