

Product Data Sheet

Product Name: LTGO-33

Cat. No.: GC73761

Chemical Properties

Cas. No. 2834106-06-6

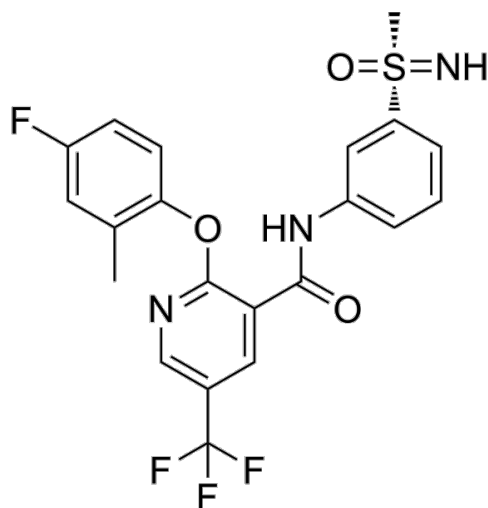
Formula $C_{21}H_{17}F_4N_3O_3S$ M.Wt 467.44

Solubility Storage -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.

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

Structure



Background

LTGO-33 is a potent and selective voltage-gated sodium channel NaV1.8 inhibitor. LTGO-33 inhibits NaV1.8 in the nM potency range and exhibits over 600-fold selectivity against human NaV1.1-NaV1.7 and NaV1.9. LTGO-33 exhibits state-independent inhibition with similar potencies on channels in the closed and inactivated conformations. LTGO-33 inhibits native TTX-R NaV1.8 currents in non-human primate and human DRG neurons, where it reduces action potential firing. LTGO-33 can be used for pain disorders research.

LTGO-33 exhibits an IC₅₀ of 33 nM from the closed state and 24 nM from an inactivated

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

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state[1].LTGO-33 displays species specificity for primate NaV1.8 over dog and rodent NaV1.8 and inhibits action potential firing in human dorsal root ganglia neurons[1].LTGO-33 inhibits TTX-R currents in primary DRG neurons from human (male donors: IC₅₀ of 110 nM, 95% CI: 92 to 120 nM, n = 3-15 neurons per concentration; female donors: IC₅₀ of 120 nM, 95% CI: 100 to 140 nM, 4-6 neurons per concentration) and cynomolgus monkey (IC₅₀ of 100 nM, 95% CI: 71 to 150 nM, n = 6 cells) but is markedly less effective on DRG neurons from dog (IC₅₀ >10 μM, n = 6 cells), rat (IC₅₀ >30 μM, n = 7 cells), and mouse (IC₅₀ >30 μM, n = 8 cells)[1].LTGO-33 stabilizes the deactivated state of VSDII, effectively keeping the channel closed by preventing movement of VSDII[1].

References:

[1]. Gilchrist JM, et al. Pharmacologic Characterization of LTGO-33, a Selective Small Molecule Inhibitor of the Voltage-Gated Sodium Channel NaV1.8 with a Unique Mechanism of Action. Mol Pharmacol. 2024 Feb 15;105(3):233-249.

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