Small Molecules

L755507

Activates β-3 adrenergic receptors

Catalog # 73992 5 mg
73994 10 mg

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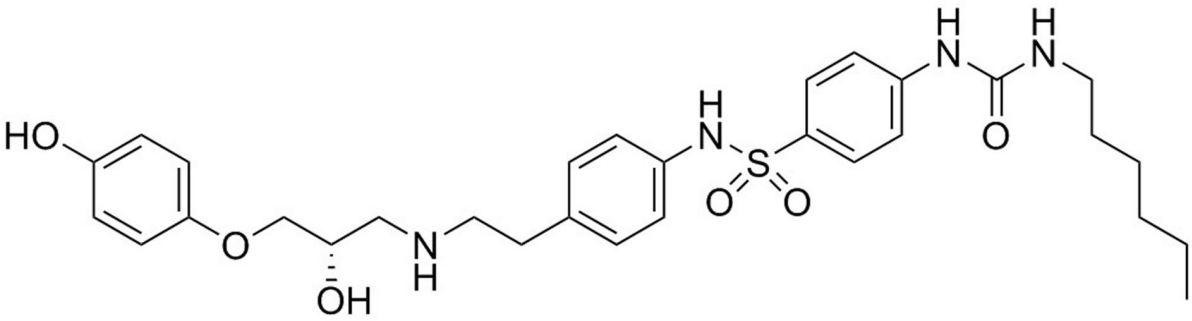
Product Description

L755507 is a potent and selective β-3 adrenergic receptor agonist that demonstrates > 440-fold selectivity over β-1 and β-2 binding (EC_{50} = 0.43, 580, and > 10,000 nM for activation of cloned human β-3-, β-2-, and β-1-adrenoreceptors, respectively; Parmee et al.).

Molecular Name:	L755507
Alternative Names:	Not applicable
CAS Number:	159182-43-1
Chemical Formula:	$C_{30}H_{40}N_4O_6S$
Molecular Weight:	584.7 g/mol
Purity:	≥ 98%
Chemical Name:	4-[[(hexylamino)carbonyl]amino]-N-[4-[2-[[(2S)-2-hydroxy-3-(4-hydroxyphenoxy)propyl]amino]ethyl]phenyl]-benzenesulfonamide
Structure:	

Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect product from prolonged exposure to light. For long-term storage store with a desiccant. Stable as supplied for 12 months from date of receipt.
Solubility:	· DMSO ≤ 40 mM · Absolute ethanol ≤ 30 mM For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 171 µL of DMSO. Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application. Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

Published Applications

DIFFERENTIATION
· Stimulates lipolysis in human white adipose tissue (Fisher et al.).
GENE EDITING
· Improves the efficiency of homology-directed repair in human induced pluripotent stem cells following CRISPR editing (Yu et al.).
METABOLISM
· Increases metabolism in rhesus monkeys (Fisher et al.).

References

Fisher MH et al. (1998) A selective human beta3 adrenergic receptor agonist increases metabolic rate in rhesus monkeys. J Clin Invest 101(11): 2387–93.
Parmee ER et al. (1998) Discovery of L-755,507: a subnanomolar human beta 3 adrenergic receptor agonist. Bioorg Med Chem Lett 8(9): 1107–12.
Yu C et al. (2015) Small molecules enhance CRISPR genome editing in pluripotent stem cells. Cell Stem Cell 16(2): 142–7.

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