

Odanacatib

Catalog No: tcsc0277



Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg



Specifications

CAS No:

603139-19-1

Formula:

$C_{25}H_{27}F_4N_3O_3S$

Pathway:

Metabolic Enzyme/Protease

Target:

Cathepsin

Purity / Grade:

>98%

Solubility:

DMSO : ≥ 25 mg/mL (47.57 mM)

Alternative Names:

MK-0822

Observed Molecular Weight:

525.56

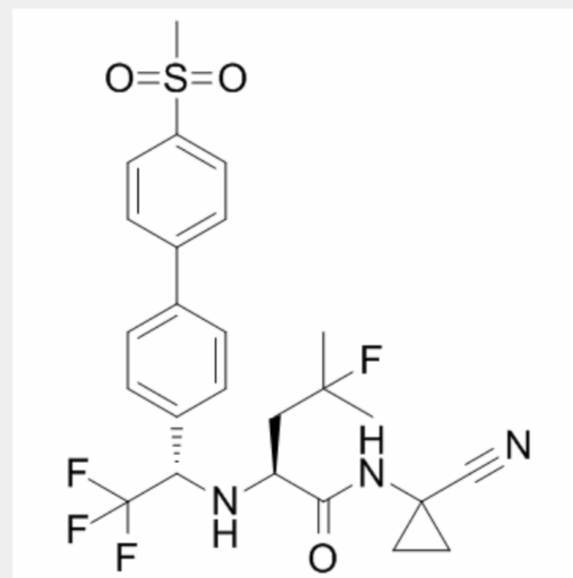
Product Description

Odanacetib is a potent, selective, and neutral inhibitor of **cathepsin K** (human/rabbit) with **IC₅₀** of 0.2 nM/1 nM, and demonstrates high selectivity versus off-target cathepsin B, L, S.

IC50 & Target: IC50: 0.2 nM (Human Cathepsin K), 1 nM (Rabbit Cathepsin K)

In Vitro: Odanacetib is a weak inhibitor of antigen presentation, measured in a mouse B cell line ($IC_{50}=1.5\pm0.4\ \mu\text{M}$), compared to the Cat S inhibitor LHVS ($IC_{50}=0.001\ \mu\text{M}$) in the same assay. Odanacetib also shows weak inhibition of the processing of the MHC II invariant chain protein lip10 in mouse splenocytes compared to LHVS (minimum inhibitory concentration 1-10 μM versus 0.01 μM , respectively)^[1]. Odanacetib reduces resorption activity as measured by CTx release ($IC_{50}=9.4\ \text{nM}$) or resorption area ($IC_{50}=6.5\ \text{nM}$), but has no impact on OC activation. Odanacetib dose-dependently reduces CTx release with an $IC_{50}=9.4\pm1.0\ \text{nM}$. Odanacetib treated OC accumulates labeled degraded bone matrix proteins in CatK containing vesicles^[2].

In Vivo: Odanacetib (30 mg/kg, orally, once daily) persistently suppresses bone resorption markers and serum bone formation markers versus vehicle-treated OVX monkeys. Odanacetib displays compartment-specific effects on trabecular versus cortical bone formation, with treatment resulting in marked increases in periosteal bone formation and cortical thickness in ovariectomized monkeys whereas trabecular bone formation is reduced^[3]. The bone volume/total volume (BV/TV) and bone mineral density (BMD) of the OVX + ODN-h group is significantly higher than that of the OVX + Veh group (p[4]).



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