

Product Data Sheet

Product Name: Huib32
Cat. No.: GC79019

Chemical Properties

Cas. No.

Formula $C_{16}H_{23}N_5O_4S$ M.Wt 381.45

Solubility DMSO: 100 mg/mL (262.16 mM; Storage Store at -20°C
Need ultrasonic)

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.

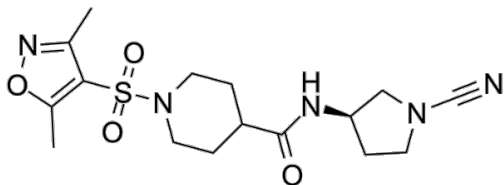
Caution: Product has not been fully validated for medical applications. For research use only.

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Structure



Background

Huib32 is a potent small-molecule inhibitor of USP32 ($IC_{50} = 21.2$ nM), exhibiting high selectivity over other closely related deubiquitinating enzymes (DUBs), such as USP8/10/16, UCHL1 and OTUB2. Huib32 reversibly inhibits USP32 by covalently binding to the active site Cys743, which enhances substrate ubiquitination, alters endosomal morphology, and mimics USP32 depletion. Huib32 can be used for breast, ovarian, and lung cancer and Alzheimer's and Parkinson's diseases research [1].

In Vitro, Huib32 (BB01CA282) (0-50 μ M, 6-24 h) selectively inhibits both USP32FL and USP32CD in a dose-dependent manner (from 0.1 μ M), with no significant effect on 16 other detected DUBs[1]. Huib32 (0-50 μ M, 24 h) demonstrates potent, dose-dependent target engagement of endogenous USP32 in MelJuSo cells ($IC_{50} \sim 0.1$ μ M), confirming its cell permeability and cellular on-target

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activity^[1]. Huib32 (10 μ M, 4-72 h) induces late endosome dispersion and enhances ubiquitination of RAB7 and other substrates (e.g., RAB6, RAB32, RAB11A/B, TMEM192), confirming its role in membrane trafficking and revealing new potential substrates of USP32^[1]. Huib32 (10 μ M, 4-72 h) significantly alters the ubiquitinome, enriching and depleting unique Lys- ϵ -Gly-Gly peptides at 4 h and 72 h, impacting substrates like RAB11A/B and USP32 itself without changing their total protein levels, indicating non-proteolytic ubiquitination^[1]. Huib32 (10 μ M, 72 h) specifically increased the ubiquitination of GFP-RAB7 WT, but not the GFP-RAB7 2KR mutant, validating its on-target effect against an established USP32 substrate^[1].

References:

[1]. Scherpe, S., et al. Huib32: A Potent and Selective USP32 Inhibitor Modulating Endosomal Processes and Advancing Cell-Permeable USP32 Probes. *bioRxiv* (2025).

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