

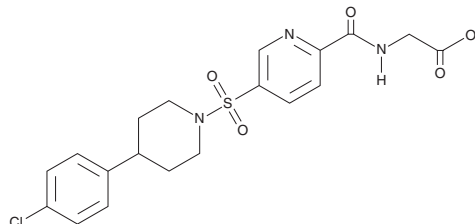
PRODUCT INFORMATION



USP5-IN-1

Item No. 46511

CAS Registry No.: 2851040-81-6
Formal Name: N-[[5-[[4-(4-chlorophenyl)-1-piperidiny]sulfonyl]-2-pyridinyl]carbonyl]-glycine
Synonyms: Ubiquitin-specific Protease 5-IN-1, Ubiquitin-specific Protease 5 Inhibitor 1, USP5 Inhibitor 1
MF: C₁₉H₂₀ClN₃O₅S
FW: 437.9
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

USP5-IN-1 is supplied as a solid. A stock solution may be made by dissolving the USP5-IN-1 in the solvent of choice, which should be purged with an inert gas. USP5-IN-1 is soluble (≥10 mg/ml) in DMSO. USP5-IN-1 is slightly soluble (0.1-1 mg/ml) in ethanol.

Description

USP5-IN-1 is an inhibitor of ubiquitin-specific protease 5 (USP5).¹ It selectively binds to the zinc finger ubiquitin-binding domain of USP5 ($K_d = 2.8 \mu\text{M}$) over histone deacetylase 6 (HDAC6), USP3, and USP16 (K_d s = >100, 100, and >100 μM , respectively) and USP13, -33, -39, -49, and -51, and BRCA1-associated protein (BRAP) at 1 mM. USP5-IN-1 inhibits the catalytic activity of USP5 using the synthetic Lys48-linked di-ubiquitin (Ub2K48) substrates DU4802 and DU4803 (IC_{50} s = 26 and 0.8 μM , respectively). It decreases tumor volume and weight in a mouse allograft model when administered in combination with an anti-programmed cell death protein 1 (anti-PD-1) antibody.²

References

1. Mann, M.K., Zepeda-Velázquez, C.A., González-Álvarez, H., *et al.* Structure-activity relationship of USP5 inhibitors. *J. Med. Chem.* **64**(20), 15017-15036 (2021).
2. Xie, J., Zhang, P., Liu, Y., *et al.* USP5-mediated PD-L1 deubiquitination regulates immunotherapy efficacy in melanoma. *J. Transl. Med.* **23**(1), 778 (2025).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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