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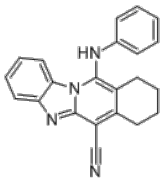
Data Sheet

Global Supplier of Chemical Probes, Inhibitors & Agonists.

Product Name	:	Usp22i-S02
Cat. No.	:	PC-49546
CAS No.	:	309735-96-4
Molecular Formula	:	$C_{22}H_{18}N_4$
Molecular Weight	:	338.414
Target	:	Deubiquitinase (DUB)
Solubility	:	10 mM in DMSO



Biological Activity

Usp22i-S02 (Usp22 inhibitor S02) is a specific small-molecule inhibitor of the Foxp3-specific deubiquitinase **USP22**, down-regulates Foxp3 expression in Treg cells in a Usp22- but not Usp21-dependent manner.
Usp22i-S02 stably binds not only to the hydrophobic residues but also to the charged and polar residues on the surface of the binding pocket of Usp22 protein, implying its potent efficacy in suppressing Usp22 catalytic functions.
Usp22i-S02 halts Usp22-mediated Foxp3 deubiquitination, Usp22i-S02 (10 ug/mL) down-regulates FoxP3 in a Usp22- but not Usp21-dependent manner in Usp22-null iTreg cells.
Usp22i-S02 has minimal effect on Foxp3 levels in murine Treg cells already lacking Usp22 both in vivo and in vitro.
Usp22i-S02 administration (20 mg/kg for 5 days) enhances antitumor immunity with low toxicity in mice, increases CD8+ T cell tumor infiltration, results in a Treg-specific phenotype in naïve mice with little effects on other immune cell types and tissue toxicity.
Usp22i-S02 (20 mg/kg for 3 days) showed marked tumor rejection in LLC1 tumor implantated mice.

References

Elena Montauti, et al. ***Sci Adv***. 2022 Nov 25;8(47):eabo4116.

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