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Data Sheet

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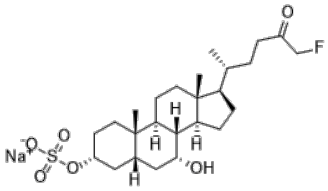
Product Name	:	BSH inhibitor GR-7
Cat. No.	:	PC-27803
CAS No.	:	2553218-46-3
Molecular Formula	:	$C_{25}H_{40}FNaO_6S$
Molecular Weight	:	510.64
Target	:	Other Targets
Solubility	:	10 mM in DMSO



Biological Activity

BSH inhibitor GR-7 (Gut restricted-7) is a potent, specific, covalent inhibitor of gut bacterial **bile salt hydrolase** (**BSH**) with IC50 of 237-1070 nM.
GR-7 selectively labels the B. theta BSH at Cys2.
GR-7 displays minimal off-target effects, does not affect farnesoid X receptor (FXR) and the G protein-coupled bile acid receptor 1 (TGR5), shows limited off-target activity against other bacterial proteins or mammalian proteins in intestinal cells.
GR-7 (10 uM) inhibits BSHs in bacterial culture.
GR-7 can inhibit gut bacterial BSH activity and modulate the bile acid pool in vivo while not significantly affecting the gut bacterial community.
GR-7 reduces ursodeoxycholic acid (UDCA) level and GLP-1 production in mice fed with normal chow or a high-fat diet.
GR-7 markedly reduced hepatic steatosis and inflammation in diet induced mouse model of steatohepatitis.

References

Arijit A Adhikari, et al. ***Nat Chem Biol.*** 2020 Mar;16(3):318-326.

Wei W, et al. ***Mol Metab.*** 2026 Aug 18:102430.

Lv J, et al. ***Gut Microbes***. 2026 Dec 31;18(1):2668127.

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