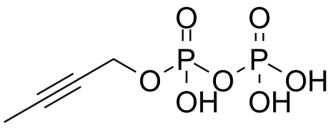
BPH-1086

Cat. No.:	HY-147304
CAS No.:	1226901-43-4
Molecular Formula:	$C_4H_8O_7P_2$
Molecular Weight:	230.05
Target:	Bacterial
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	BPH-1086 (compound 10) is an IspH inhibitor, IspH domain fused with ribosomal protein S1 (RPS1) can bind to mRNA or form part of the bacterial ribosome[1][2].
IC_{50} & Target	Target: IspH[1]
In Vitro	IspH (LytB) is the last enzyme in the nonmevalonate pathway, IspH domains can be fused to either the ribosomal protein S1 (RPS1), IspH–RPS1 binds to mRNA or forms part of the bacterial ribosome[1][2]. IspH–RPS1 proteins are present in anaerobes found in the human gut and some, such as Clostridium botulinum, C. tetani and Fusobacterium nucleatum, are pathogens[2]. IspH inhibitor will therefore kill bacteria directly, as with other antibiotics, but will also kill persistent bacteria by microptosis[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Wang W, et al. Bioorganometallic mechanism of action, and inhibition, of IspH. Proc Natl Acad Sci U S A. 2010 Mar 9;107(10):4522-7.

[2]. Rao G, et al. IspH-RPS1 and IspH-UbiA: "Rosetta Stone" Proteins. Chem Sci. 2015 Dec 1;6(12):6813-6822.

[3]. Singh KS, et al. IspH inhibitors kill Gram-negative bacteria and mobilize immune clearance. Nature. 2021 Jan. 589(7843):597-602.

[4]. Oldfield Eric, et al. Enzyme inhibiting compounds and methods: United States, US8609638 B2. 2013-12-17.

[5]. Oldfield Eric, et al. Preparation of alkynyl diphosphates as Enzyme inhibiting compounds and methods: World Intellectual Property Organization, WO2011044505 A2. 2011-04-14.

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

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