Product Datasheet

CU-CPT-9b

Catalog No. **BP-01977** · CAS **2162962-69-6** · Form **free base** · Physical state **solid** · Color **White to yellow** · Version **1.0** · Revision **2026-09-09**

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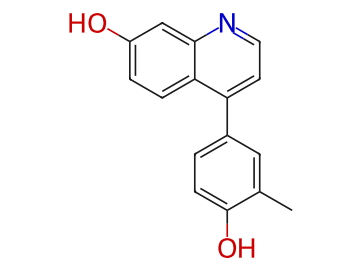
Target	Research area
Toll-like Receptor (TLR)	**Inflammation/Immunology**

Molecular formula	$C_{16}H_{13}NO_2$
Molecular weight	**251.2799**

STRUCTURE



DESCRIPTION

CU-CPT9b is a specific TLR8 antagonist, with an IC50 of 0.7 nM. CU-CPT9b shows high binding affinity towards TLR8 with a Kd of 21 nM.

BIOLOGICAL ACTIVITY

In Vitro

CU-CPT9b is a specific TLR8 antagonist, with an IC50 of 0.7±0.2 nM. ITC experiments have confirmed the strong binding of CU-CPT9b with a Kd of 21 nM. It is shown that CU-CPT-9b binds to the inactive TLR8 dimer in a similar way to CU-CPT8m. CU-CPT9b utilizes hydrogen bonds with G351 and V520*, which are conserved among TLR8/antagonist structures. Additionally, CU-CPT9b forms water-mediated contacts with S516* and Q519*, which are not observed in TLR8/CU-CPT8m structure, suggesting that the enhanced potency of CU-CPT9b derives from the new interactions with these polar residues. The orientation of Y567* also changes to facilitate van der Waals interactions with CU-CPT9b as compared to TLR8/CU-CPT8m.

SOLUBILITY

Soluble in DMSO

REFERENCES

[1]. Zhang S, et al. Small-molecule inhibition of TLR8 through stabilization of its resting state. Nat Chem Biol. 2018 Jan;14(1):58-64.