

BBIQ

Chemical Properties

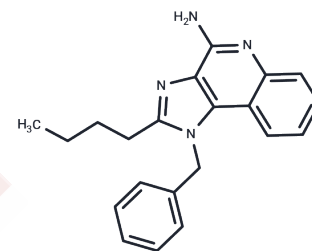
CAS No. : 1229024-57-0

Formula: C₂₁H₂₂N₄

Molecular Weight: 330.43

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	BBIQ is a powerful vaccine adjuvant that enhances innate immune responses and a potent and selectively toll-like receptor 7 (TLR7) agonist with an EC ₅₀ of 59.1nM for human TLR7.
Targets(IC ₅₀)	TLR
In vitro	BBIQ induces IFN- α in human PBMCs (520 pg/mL at 5 μ g/mL)[1].
In vivo	In an experimental study, mice that received only Chloroquine (CQ) for treatment showed signs of the parasite (<i>P. berghei</i> ANKA) by Day 17 and succumbed by Day 21. Conversely, those administered a combination of BBIQ and CQ did not exhibit any parasitic presence up to Day 23. Additionally, the combined treatment with BBIQ+CQ resulted in a reduction of T cell frequencies (CD3+, CD4+, and CD8+) and T regulatory cell frequencies (CD4+, CD25+, and FoxP3+) in the brain when compared to the effects of BBIQ or CQ alone on Day 10. This treatment also elevated the serum levels of IFN- γ and IL-12, indicating a strong Th1 immune response against the infection on the same day. The study suggests that the BBIQ+CQ combination therapy not only inhibits the infiltration of inflammatory T cells but also activates T helper and T cytotoxic cells to combat the parasite effectively.

Solubility Information

Solubility	DMSO: 3.31 mg/mL (10.02 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.0264 mL	15.1318 mL	30.2636 mL
5 mM	0.6053 mL	3.0264 mL	6.0527 mL
10 mM	0.3026 mL	1.5132 mL	3.0264 mL
50 mM	0.0605 mL	0.3026 mL	0.6053 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Saroa R, et al. Efficacy of TLR7 agonistic imidazoquinoline as immunochemotherapeutic agent against P. Berghei ANKA infected rodent host. *Bioorg Med Chem Lett*. 2019 May 1;29(9):1099-1105.

Kaushik D, et al. BBIQ, a pure TLR7 agonist, is an effective influenza vaccine adjuvant. *Hum Vaccin Immunother*. 2020 Apr 16:1-8.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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