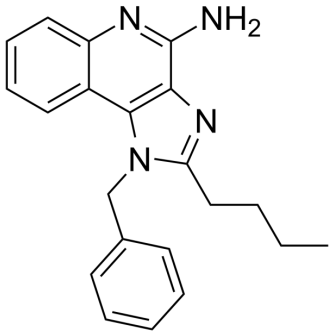
BBIQ

Cat. No.:	HY-111582
CAS No.:	1229024-57-0
Molecular Formula:	$C_{21}H_{22}N_4$
Molecular Weight:	330.43
Target:	Toll-like Receptor (TLR)
Pathway:	Immunology/Inflammation
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 16.67 mg/mL (50.45 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	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

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

BBIQ is a imidazoquinoline compound and a potent and selectively toll-like receptor 7 (TLR7) agonist with an EC_{50} of 59.1 nM for human TLR7. BBIQ is a powerful vaccine adjuvant that enhances innate immune responses[1][2].

IC_{50} & Target

TLR7
59.1 nM (EC50, Human TLR7)

In Vitro

BBIQ induces IFN-α in human PBMCs (520 pg/mL at 5 μg/mL)[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

In mice treated with Chloroquine (CQ) alone, parasite (P. berghei ANKA) appearesd on Day 17 and all mice of this group died by Day 21. Whereas, mice treated with BBIQ along with CQ exhibits no appearance of parasite till Day 23. Frequencies of T cells (CD3+, CD4+and CD8+) and T regulatory cells (CD4+, CD25 +and FoxP3+) are lower in brain of BBIQ + CQ treated mice as compared to BBIQ alone and CQ alone treated mice on Day 10. Inhibition of infiltration of inflammatory T cells and activation of T helper and T cytotoxic cells against the parasite is observed in the mice treated with this combination therapy. Serum levels of IFN-γ and IL-12 are higher on same day in mice treated with BBIQ + CQ which reveals the generation

	of strong Th1 immune response in mice against the infection[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. 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.

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

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