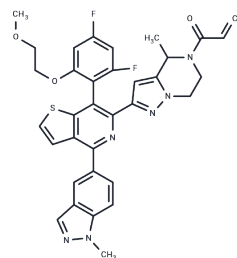


BBO-10203

Chemical Properties

CAS No. : 2971769-60-3
 Formula: C₃₄H₃₀F₂N₆O₃S
 Molecular Weight: 640.7
 Storage: Store at low temperature
 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	BBO-10203 is an orally active small molecule, also designated as Compound 758, that functions as a selective PI3K α -Ras interaction disruptor by binding to the Ras-binding domain of PI3K α . BBO-10203 effectively prevents Ras-PI3K α complex formation, inhibits downstream Akt activation without altering basal PI3K α kinase activity, thereby minimizing risks of hyperglycemia and hyperinsulinemia, and displays selective antitumor activity against KRAS-mutant malignancies, making it an important investigational candidate for targeted cancer therapeutics.
Targets(IC50)	Akt,PI3K
In vitro	BBO-10203 blocks the interaction between KRAS-G12D and PI3K α in HEK293T cells with an IC50 of 6 nM, without affecting the binding between KRAS-G12D and protein kinase CRAF or inhibiting the in vitro kinase activity of PI3K α . BBO-10203 exhibits an IC50 < 10 nM against most HER2 gene-amplified cell lines and is sensitive to PIK3CA spiral mutations in cell lines. [1][2]
In vivo	In fasting male mice undergoing an oral glucose tolerance test, 300 mg/kg BBO-10203 did not affect glucose metabolism, while 50 mg/kg aprelis was associated with hyperglycaemia and hyperinsulinaemia. In xenograft mouse models with KRAS G12X mutations, with or without PIK3CA mutations, BBO-10203 (10-100 mg/kg, oral, once daily, for 28 days) exhibited dose-dependent tumour volume reduction effects and antitumour efficacy in several subcutaneous xenograft models with multiple KRAS mutations. [1]

Solubility Information

Solubility	DMSO: 250 mg/mL (390.2 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: < 5 mg/mL (7.8 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (7.8 mM),Solution. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may</i>

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In vivo Formulation	<i>vary and should be modified based on specific experimental conditions.</i>
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.5608 mL	7.804 mL	15.6079 mL
5 mM	0.3122 mL	1.5608 mL	3.1216 mL
10 mM	0.1561 mL	0.7804 mL	1.5608 mL
50 mM	0.0312 mL	0.1561 mL	0.3122 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

Compounds having a t-structure formed by at least four cycles for use in the treatment of cancer and other indications. Google Patents. February 7, 2023.

Simanshu DK, Xu R, Stice JP, et al. BBO-10203 inhibits tumor growth without inducing hyperglycemia by blocking RAS-PI3K α interaction. Science. 2025;389(6758):409-415. doi:10.1126/science.adq2004

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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