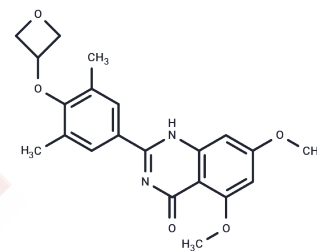


BBC0403

## Chemical Properties

CAS No. : 2644662-83-7  
 Formula: C<sub>21</sub>H<sub>22</sub>N<sub>2</sub>O<sub>5</sub>  
 Molecular Weight: 382.41  
 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	BBC0403 is a selective BRD2 inhibitor that inhibits BRD2 and BRD2, suppressing NF-κB and MAPK signaling pathways. It can be used in osteoarthritis (OA) research.
Targets(IC50)	Epigenetic Reader Domain
In vitro	BBC0403 is a selective BRD2 inhibitor with K <sub>d</sub> values of 7.64 μM for BRD2 (BD2) and 41.37 μM for BRD2 (BD1). BBC0403 significantly inhibited the expression of catabolic factors, the production of prostaglandin E2 (PGE2) and the degradation of the extracellular matrix (ECM) after treatment with BBC0403 at 5 μM, 10 μM, and 20 μM for 12 h. BBC0403 inhibits catabolic factor expression, prostaglandin E2 (PGE2) production, and the degradation of ECM. and extracellular matrix (ECM) degradation. By blocking the NF-κB and MAPK signaling pathways, BBC0403 helps to alleviate the development of osteoarthritis (OA). [1]
In vivo	Weekly intra-articular injection of 5-10 μg/kg of BBC0403 for 6 weeks effectively prevented the degradation of osteoarthritic cartilage in a mouse model. [1]

## Solubility Information

Solubility	DMSO: 25 mg/mL (65.37 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (5.23 mM), Sonication is recommended. <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 vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	2.615 mL	13.075 mL	26.1499 mL
5 mM	0.523 mL	2.615 mL	5.230 mL
10 mM	0.2615 mL	1.3075 mL	2.615 mL
50 mM	0.0523 mL	0.2615 mL	0.523 mL

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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

Lee H, et al. BRD2-specific inhibitor, BBC0403, inhibits the progression of osteoarthritis pathogenesis in osteoarthritis-induced C57BL/6 male mice. *Br J Pharmacol.* 2024 Aug;181(15):2528-2544.

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