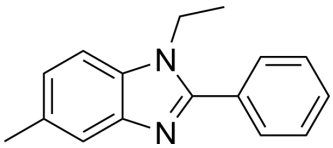
Fc 11a-2

Cat. No.:	HY-111662
CAS No.:	960119-75-9
Molecular Formula:	$C_{16}H_{16}N_2$
Molecular Weight:	236.31
Target:	NOD-like Receptor (NLR)
Pathway:	Immunology/Inflammation
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Fc 11a-2, a benzimidazole compound, is an orally active and potent NLRP3 inflammasome inhibitor. Fc 11a-2 restrains the formation of NLRP3 inflammasome by inhibiting activation of caspase-1 and thus the activation of IL-1b/IL-18. Fc 11a-2 prevents the development of Dextran sulfate sodium (DSS; HY-116282C)-induced murine experimental colitis[1][2][3].
In Vitro	Fc 11a-2 (10 μM) suppresses the release of IL-1β and IL-18 from LPS (HY-D1056)-primed THP-1 cells activated with ATP exhibiting an IC_{50} of about 10 μM[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Fc 11a-2 (3-30 mg/kg; Orally; from day 1 to day 10) dose-dependently attenuates the loss of body weight and shortening of colon length induced by DSS[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	C57BL/6 mice induced Colitis with 2.5% DSS[2]
Dosage:	3, 10, 30 mg/kg
Administration:	Orally; from day 1 to day 10
Result:	Significantly attenuated the loss of body weight during the disease progression at 10 and 30 mg/kg. The myeloperoxidase (MPO) activity in colons at 10 and 30 mg/kg was lower than that of the vehicle-treated group. Significantly reduced the disease activity index, histopathologic scores and myeloperoxidase activity.

REFERENCES

[1]. Liangkun Pan, et al. Synthesis and Biological Evaluation of Novel Benzimidazole Derivatives and Analogs Targeting the NLRP3 Inflammasome. Molecules. 2017 Jan 30;22(2):213.

[2]. Wen Liu, et al. A novel benzo[d]imidazole derivate prevents the development of dextran sulfate sodium-induced murine experimental colitis via inhibition of NLRP3 inflammasome. Biochem Pharmacol. 2013 May 15;85(10):1504-12.

[3]. Biswadeep Das, et al. Promise of the NLRP3 Inflammasome Inhibitors in In Vivo Disease Models. Molecules. 2021 Aug 18;26(16):4996.

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