Bromisoval

Cat. No.: HY-B2113

CAS No.: 496-67-3

Molecular Formula: $C_6H_{11}BrN_2O_2$

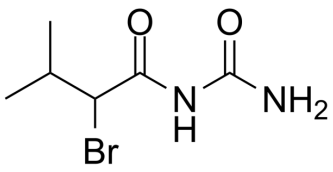
Molecular Weight: 223.07

Target: Others

Pathway: Others

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 300 mg/mL (1344.87 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	4.4829 mL	22.4145 mL	44.8290 mL
	5 mM	0.8966 mL	4.4829 mL	8.9658 mL
	10 mM	0.4483 mL	2.2414 mL	4.4829 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 7.5 mg/mL (33.62 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 7.5 mg/mL (33.62 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 7.5 mg/mL (33.62 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Bromisoval has anti-inflammatory effects.

In Vitro

Bromisoval (BU) suppresses nitric oxide (NO) releasing and proinflammatory cytokine expression in lipopolysaccharide (LPS)-treat BV2 cells, a murine microglial cell line. Bromisoval suppresses LPS-inducing phosphorylation of signal transducer and activator of transcription 1 (STAT1) and expression of interferon regulatory factor 1 (IRF1). The Janus kinase 1 (JAK1) inhibitor filgotinib suppresses the NO release much more weakly than that of Bromisoval, although filgotinib almost completely prevents LPS-inducing STAT1 phosphorylation. Knockdown of JAK1, STAT1, or IRF1 does not affect the suppressive effects of Bromisoval on LPS-inducing NO. A combination of Bromisoval and filgotinib synergistically suppress

	the NO releasing. The mitochondrial complex I inhibitor rotenone, which does not prevent STAT1 phosphorylation or IRF1 expression, suppresses proinflammatory mediator expression less significantly than Bromisoval. Bromisoval and rotenone reduce intracellular ATP (iATP) levels to a similar extent. A combination of rotenone and filgotinib suppress NO release in LPS-treated BV2 cells as strongly as Bromisoval[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Bromisoval (Bromvaletone) and carbromal are the most potent central depressants within each series. Depressant activities (ISD_{50} values) and acute toxicities (LD_{50} values) in male mice after intraperitoneal injection of Bromisoval are 0.35 (0.30-0.39) and 3.25 (2.89-3.62) mmol/kg, respectively[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Kinase Assay [1]	Conditioning media are obtained from BV2 cell cultures that have been incubated for 24 h in E2 medium containing 1 μg/ml LPS, with or without Bromisoval (BU) (1-100 μg/mL) or other agents, and subjected to NO determination. To normalize the releasing NO level by the cellular protein contents, cells are solubilized with RIPA buffer (50 mM Tris-HCl, pH 8.0, 150 mM sodium chloride, 0.5% w/v sodium deoxycholate, 0.1% w/v sodium dodecyl sulfate, 1.0% w/v NP-40 substitute) and the protein contents are determined by BCA protein assay reagents[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Cell Assay [1]	Murine microglial cell line BV2 is used. BV2 cells are maintained in medium supplemented with 10% fetal bovine serum. BV2 cells are seeded onto wells in 4-well culture plates and incubated with LPS for 30 min to 24 h. When the effects of Bromisoval (BU) or other agents are investigated, BV2 cells are incubated with the appropriate agent (e.g. Bromisoval) for 30 min before the addition of LPS[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [2]	Suspensions of the compounds (including Bromisoval) in aqueous 0.5% carboxymethyl cellulose are administered intraperitoneally to adult male albino mice weighing 25-35 g. All tests are performed on groups of ten mice[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Kawasaki S, et al. Effects of hypnotic bromovalerylurea on microglial BV2 cells. J Pharmacol Sci. 2017 Jun;134(2):116-123.

[2]. Mrongovius RI, et al. Comparison of the bromureide sedative-hypnotic drugs, bromvaletone (bromisoval) and carbromal, and their chloro analogues in mice. Clin Exp Pharmacol Physiol. 1976 Sep-Oct;3(5):443-7.

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