Broussonin E

Cat. No.: HY-N2963

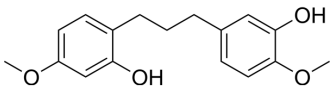
CAS No.: 90902-21-9

Molecular Formula: $C_{17}H_{20}O_4$

Molecular Weight: 288.34

Target: ERK; p38 MAPK; JAK; STAT; TNF Receptor; Interleukin Related; COX; Arginase

Pathway: MAPK/ERK Pathway; Stem Cell/Wnt; Epigenetics; JAK/STAT Signaling; Protein Tyrosine Kinase/RTK; Apoptosis; Immunology/Inflammation; Metabolic Enzyme/Protease



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 : 100 mg/mL (346.81 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.4681 mL	17.3406 mL	34.6813 mL
	5 mM	0.6936 mL	3.4681 mL	6.9363 mL
	10 mM	0.3468 mL	1.7341 mL	3.4681 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: ≥ 2.5 mg/mL (8.67 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.67 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.67 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Broussonin E is a phenolic compound and shows anti-inflammatory activity. Broussonin E can suppress inflammation by modulating macrophages activation statevia inhibiting the ERK and p38 MAPK and enhancing JAK2-STAT3 signaling pathway. Broussonin E can be used for the research of inflammation-related diseases such as atherosclerosis[1].

IC_{50} & Target	ERK	p38 MAPK	JAK2	STAT3

	IL-1β	IL-6	COX-2	IL-10

In Vitro

Broussonin E (20 μM, 3 h) inhibits the LPS (Lipopolysaccharides, HY-D1056)-stimulated phosphorylation of ERK and p38 MAPK[1].

Broussonin E can activate janus kinase (JAK) 2, signal transducer and activator of transcription (STAT) 3[1].

Broussonin E (0-20 μM, 3 h) can suppress the LPS-induced pro-inflammatory production in RAW264.7 cells, involving TNF-α, IL-1β, IL-6, COX-2 and iNOS[1].

Broussonin E enhances the expressions of anti-inflammatory mediators such as IL-10, CD206 and arginase-1 (Arg-1) in LPS-stimulated RAW264.7 cells[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	RAW264.7 cells
Concentration:	2.5, 5, 10 and 20
Incubation Time:	3 h
Result:	Inhibited p-ERK and p-p38 MAPK, but not p-JNK MAPK expression in LPS-stimulated RAW264.7 cells.

REFERENCES

[1]. Huang SP, et al. Broussonin E suppresses LPS-induced inflammatory response in macrophages via inhibiting MAPK pathway and enhancing JAK2-STAT3 pathway. Chin J Nat Med. 2019 May 20;17(5):372-380.

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