IRG1-IN-1

Cat. No.: HY-148335

CAS No.: 2407652-42-8

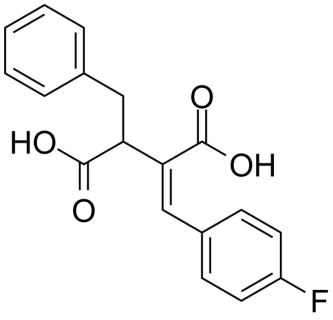
Molecular Formula: $C_{18}H_{15}FO_4$

Molecular Weight: 314.31

Target: Others

Pathway: Others

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (318.16 mM; Need ultrasonic)

Preparing Stock Solutions	Concentration / Solvent / Mass	1 mg	5 mg	10 mg
	1 mM	3.1816 mL	15.9079 mL	31.8157 mL
	5 mM	0.6363 mL	3.1816 mL	6.3631 mL
	10 mM	0.3182 mL	1.5908 mL	3.1816 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 (7.95 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.95 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.95 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

IRG1-IN-1 is an itaconic acid derivative. IRG1-IN-1 can inhibit immune-responsive gene 1 (IRG1) activity. IRG1-IN-1 can be used for the research of cancer, inflammation and autoimmune diseases[1].

In Vitro

IRG1-IN-1(compound 6) (0.5 mM; 2 mM) reduces production of itaconic acid and the secretion of TNFα from LPS-stimulated human monocyte derived macrophages (hMDMs) [1].
IRG1-IN-1 (0.5 mM; 1 mM) inhibits the proliferation of C-IRG1-9 rat glioma cells[1].
IRG1-IN-1(10 nM) increases proliferation of TCR-activated hCD8$^+$ T cells[1].
IRG1-IN-1(10μM) shows depletion of trimethylation of histone 3 at lysine 4 (H3K4me3) in CR-activated hCD8$^+$ T cells[1].

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

Western Blot Analysis[1]

Cell Line:	TCR-activated hCD8$^+$ T cells
Concentration:	10 μM
Incubation Time:	24-72 h
Result:	Decreased protein levels of histone 3 (H3).

Cell Proliferation Assay[1]

Cell Line:	C-IRG1-9 rat glioma cells and TCR-activated hCD8$^+$ T cells
Concentration:	0.5 mM; 1 mM; 10 nM
Incubation Time:	48-96 h
Result:	Inhibited the proliferation of C-IRG1-9 rat glioma cells and increased proliferation of TCR-activated hCD8$^+$ T cells.

In Vivo

IRG1-IN-1 (compound 6) (i.p.; 0.2 mg/kg; 27 days) shows antitumor effect in C57BL/6 mice[1].

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

Animal Model:	C57BL/6 mice[1]
Dosage:	0.2 mg/kg
Administration:	IP; 27 days
Result:	Increased survival of C57BL/6 mice bearing mouse CT26 colorectal tumors. Decreased intratumoral frequency of M-MDSCs in tumors.

REFERENCES

[1]. Adonia Papathanassiu, et al. Compositions and methods of using itaconic acid derivatives. Patent. US20210261495A1.

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