Product Data Sheet

Product Name: IRG1-IN-1
Cat. No.: GC67720

Chemical Properties

Cas. No.	2407652-42-8		
Formula	$C_{18}H_{15}FO_4$	M.Wt	314.31
Solubility	DMSO : 100 mg/mL (318.16 mM; Need ultrasonic)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	IRG1-IN-1		

Background

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].

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].

Western Blot Analysis[1]

Cell Line:	TCR-activated hCD8$^+$ T cells
Concentration:	10 μM

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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.

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

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.

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

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