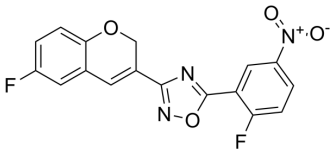
WYJ-2

Cat. No.:	HY-158058
CAS No.:	3029403-05-9
Molecular Formula:	$C_{17}H_9F_2N_3O_4$
Molecular Weight:	357.27
Target:	Toll-like Receptor (TLR); Pyroptosis
Pathway:	Immunology/Inflammation; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	WYJ-2 is a selective agonist for toll-like receptor 2/1 (TLR2/1) with EC_{50} of 18.57 nM in human TLR2 and TLR1 transient-cotransfected HEK 293T cells. WYJ-2 induces pyroptosis and exhibits anticancer activity against non-small cell lung cancer (NSCLC)[1].
IC_{50} & Target	TLR2
In Vitro	WYJ-2 (0-10 μM) inhibits heterodimerization of TLR2 and TLR1 in THP-1 cells, stimulates the adaptor protein myeloid differentiation primary response protein 88 (MyD88) and then activates the NF-κB signaling pathway without significant cytotoxicity[1]. WYJ-2 (0-100 μM) inhibits proliferation in cancer cells A549, HeLa, HepG2 and MCF-7 with IC_{50} about 10 μM, induces cancer cell pyroptosis by activation of the NLRP3 inflammasome[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	WYJ-2 (5 mg/kg, i.p. every teo days for 30 days) inhibits tumor growth without significant toxicity in A549 xenograft BALB/c mice[1].

Western Blot Analysis[1]

Cell Line:	PAM-differentiated THP-1
Concentration:	0-10 μM
Incubation Time:	12 h
Result:	Upregulated levels of MyD88, p-p65, TLR1 and TLR2. Increased NLRP3.

Immunofluorescence[1]

Cell Line:	PAM-differentiated THP-1
Concentration:	0-10 μM
Incubation Time:	12 h
Result:	Induced translocation of p-p65 in nucleus.

WYJ-2 (10 mg/kg, i.p.) exhibits a pharmacokinetic profil with half-time of $T_{1/2}$ of 3.67 h and a clearance C_{max} of 497 ± 49 ng/mL[1].

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

Animal Model:	A549 xenograft BALB/c mice[1]
Dosage:	5 mg/kg
Administration:	i.p. every two days for 30 days
Result:	Inhibited tumor growth with a TGI of 72.22% without significant loss of body weight.

REFERENCES

[1]. Wang Y, et al., Design and Synthesis of 3-(2H-Chromen-3-yl)-5-aryl-1,2,4-oxadiazole Derivatives as Novel Toll-like Receptor 2/1 Agonists That Inhibit Lung Cancer In Vitro and In Vivo. J Med Chem. 2024 Mar 18.

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