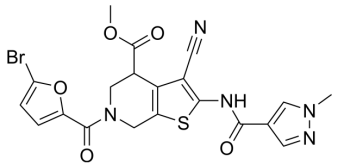
WB518

Cat. No.:	HY-163176
Molecular Formula:	$C_{20}H_{16}BrN_5O_5S$
Molecular Weight:	518.34
Target:	STAT
Pathway:	JAK/STAT Signaling; Stem Cell/Wnt
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

WB518 is a potent STAT3 inhibitor. WB518 effectively inhibits STAT3 activation and Keratin 17 expression. WB518 effectively alleviates imiquimod (HY-B0180) and TPA (HY-18739)-induced animal psoriasis by inhibiting STAT3 phosphorylation and Keratin 17[1].

IC_{50} & Target		
	STAT3	p-STAT3

In Vitro

WB518 (5-25 μM) significantly reduces the mRNA and protein levels of Keratin 17 (K17) in HaCaT cells by inhibiting the phosphorylation of STAT3 Tyr705 (Y705)[1].

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

Western Blot Analysis[1]

Cell Line:	HaCaT cells
Concentration:	0, 5, 25 μM
Incubation Time:	12 h
Result:	Decreased K17 mRNA levels following stimulation with IL-22 (100 ng/ml) or IL-17A (300 U/ml) compared to untreated cells. Concentration-dependently down-regulated K17 protein expression by inhibiting STAT3 activation, without affecting the ERK or STAT1 pathway.

In Vivo

WB518 (17.5 μg and 35 μg per site, External application, daily, for 5 days) ameliorates TPA (HY-18739)-induced psoriasis-like skin inflammation, anss significantly improves the phenotypic characteristics of mouse psoriasis models[1].

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Animal Model:	Female C57BL/6 mice (6–8 weeks old)[1]
Dosage:	17.5 μg and 35 μg per site
Administration:	External application, daily, for 5 days
Result:	WB518 (35 μg) exhibited significantly reduced epidermal hyperplasia and dermal

	infiltration of inflammatory cells compared to mice treated with TPA alone.

REFERENCES

[1]. Ti C, et al. WB518, a novel STAT3 inhibitor, effectively alleviates IMQ and TPA-induced animal psoriasis by inhibiting STAT3 phosphorylation and Keratin 17. Int Immunopharmacol. 2024 Jan 25;127:111344.

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