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Data Sheet

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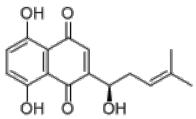

Product Name	:	Shikonin
Cat. No.	:	PC-21476
CAS No.	:	517-89-5
Molecular Formula	:	$C_{16}H_{16}O_5$
Molecular Weight	:	288.3
Target	:	IκB kinase (IKK)
Solubility	:	10 mM in DMSO

Biological Activity

Shikonin is a specific inhibitor of the **IKKβ/NEMO** complex PPI with IC50 of 170 nM, also a potent **TMEM16A** chloride channel inhibitor (IC50=6.5 uM) and specific pyruvate kinase M2 (**PKM2**) inhibitor.
Shikonin possesses various physiological and pharmacological properties, including anti-inflammatory, wound healing, and anti-cancer effects.
Shikonin suppresses the malignant phenotypes of colorectal cancer cells in vitro and in vivo, decreases the protein levels Cyclin E1/D1, CDK4 and MMP2/9, while increasing the levels of cleaved caspases 3 and 9, cleaved PARP, and TIMP.
Shikonin shows no effects on the upstream regulators of IKKβ/NEMO complex.
Shikonin effectively impairs **NEMO/IKKβ** interaction with IC50 of 231.03 nM in fluorescence resonance energy transfer (FRET) assays.
Shikonin is a natural product and is a bioactive constituent of Lithospermum erythrorhizon, which has a long history of more than 2000 years of use as a Chinese medicinal herb known as zicao.

References

Zhenlong Yu, et al. Signal Transduction and Targeted Therapy volume 7, Article number: 71 (2022)

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