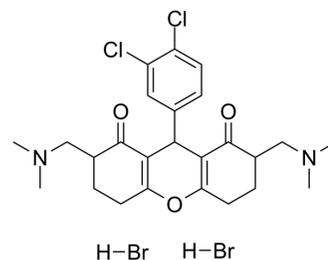


## SD-1029

Cat. No.:	HY-112391
CAS No.:	118372-34-2
Molecular Formula:	C <sub>25</sub> H <sub>32</sub> Br <sub>2</sub> Cl <sub>2</sub> N <sub>2</sub> O <sub>3</sub>
Molecular Weight:	639.25
Target:	JAK; STAT
Pathway:	Epigenetics; JAK/STAT Signaling; Protein Tyrosine Kinase/RTK; Stem Cell/Wnt
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	SD-1029 is a JAK2/STAT3 inhibitor <sup>[1]</sup> . SD-1029 inhibits STAT3 nuclear translocation. SD-1029 is an inhibitor of STAT3 activation due to inhibition of JAK2 phosphorylation <sup>[2]</sup> .																	
<b>IC<sub>50</sub> &amp; Target</b>	STAT3	JAK2																
<b>In Vitro</b>	<p>SD-1029 (10 μM) inhibits EGFP-Stat3 nuclear translocation in BHK-21 and U-2OS cells<sup>[1]</sup>.</p> <p>SD-1029 (5 and 10 μM; 24 hours) inhibits cell growth and induces apoptosis in OVCAR8<sub>TR</sub> ovarian cancer cells<sup>[1]</sup>.</p> <p>SD-1029 (10 μM; 24 hours) suppresses p-Stat3 levels in human breast and ovarian cancer cell lines<sup>[1]</sup>.</p> <p>SD-1029 inhibits not only JAK2 phosphorylation, but also the phosphorylation of STAT1 and STAT3. SD-1029 strongly inhibits Tyk2 phosphorylation, implicating both JAK2 and Tyk2 as upstream requirements for IL-23-induced IL-23R expression<sup>[2]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Proliferation Assay<sup>[1]</sup></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Cell Line:</td> <td>OVCAR8<sub>TR</sub> ovarian cancer cells</td> </tr> <tr> <td>Concentration:</td> <td>5 and 10 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>24 hours</td> </tr> <tr> <td>Result:</td> <td>Down-regulated cell proliferation, and induced apoptotic cell death. Treatment resulted in a marked, 20-fold induction of apoptosis in the OVCAR8<sub>TR</sub> cells that express constitutively activated Stat3.</td> </tr> </table> <p>Western Blot Analysis<sup>[1]</sup></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Cell Line:</td> <td>MDA-MB-468 and MDA435 (breast cancer), OV1063 (ovarian cancer), and the paclitaxel-resistant ovarian cancer daughter lines, SKOV-3<sub>TR</sub> and OVCAR8<sub>TR</sub>.</td> </tr> <tr> <td>Concentration:</td> <td>10 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>24 hours</td> </tr> <tr> <td>Result:</td> <td>Led to reduced levels of pStat3.</td> </tr> </table>		Cell Line:	OVCAR8 <sub>TR</sub> ovarian cancer cells	Concentration:	5 and 10 μM	Incubation Time:	24 hours	Result:	Down-regulated cell proliferation, and induced apoptotic cell death. Treatment resulted in a marked, 20-fold induction of apoptosis in the OVCAR8 <sub>TR</sub> cells that express constitutively activated Stat3.	Cell Line:	MDA-MB-468 and MDA435 (breast cancer), OV1063 (ovarian cancer), and the paclitaxel-resistant ovarian cancer daughter lines, SKOV-3 <sub>TR</sub> and OVCAR8 <sub>TR</sub> .	Concentration:	10 μM	Incubation Time:	24 hours	Result:	Led to reduced levels of pStat3.
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## REFERENCES

- [1]. Zhenfeng Duan, et al. SD-1029 inhibits signal transducer and activator of transcription 3 nuclear translocation. Clin Cancer Res. 2006 Nov 15;12(22):6844-52.
- [2]. Nor Fazila Che Mat, et al. Interleukin-23-induced interleukin-23 receptor subunit expression is mediated by the Janus kinase/signal transducer and activation of transcription pathway in human CD4 T cells. J Interferon Cytokine Res. 2011 Apr;31(4):363-71.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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