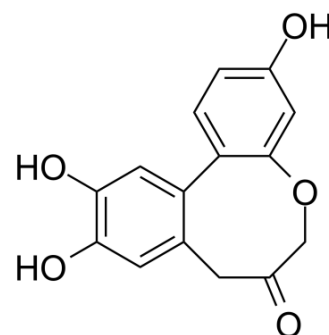


Protosappanin A

Cat. No.:	HY-113573
CAS No.:	102036-28-2
Molecular Formula:	C ₁₅ H ₁₂ O ₅
Molecular Weight:	272.25
Target:	JAK; STAT
Pathway:	Epigenetics; JAK/STAT Signaling; Stem Cell/Wnt
Storage:	4°C, sealed storage, away from moisture and light



BIOLOGICAL ACTIVITY

Description	Protosappanin A (PTA), an immunosuppressive ingredient and major biphenyl compound isolated from <i>Caesalpinia sappan</i> L, suppresses JAK2/STAT3 -dependent inflammation pathway through down-regulating the phosphorylation of JAK2 and STAT3 ^[1] .									
IC₅₀ & Target	JAK2	STAT3								
In Vitro	<p>Protosappanin A (PTA: 12.5, 25, 50 μM, 24 hours) significantly inhibits the production of TNF-α and IL-1β in LPS-activated BV2 microglia. And the mRNA expressions of IL-6, IL-1β, and MCP-1 are reduced by PTA in a dose-dependent manner in BV2 microglial cell line^[1].</p> <p>Protosappanin A (PTA: 12.5, 25, 50 μM, 24 hours) suppresses JAK2/STAT3-dependent inflammation pathway through down-regulating the phosphorylation of JAK2 and STAT3, as well as STAT3 nuclear translocation against LPS treatment^[1].</p> <p>Protosappanin A (PTA: 12.5, 25, 50 μM, 24 hours) shows obvious effect on disturbing the interaction of transmembrane protein CD14 with Toll-like receptor-4, resulting in the inhibition of NF-κB-dependent oxidative and nitrative stress in LPS-induced BV2 microglia^[2].</p> <p>Western Blot Analysis^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>Murine BV2 microglial cell line.</td> </tr> <tr> <td>Concentration:</td> <td>12.5, 25, 50 μM.</td> </tr> <tr> <td>Incubation Time:</td> <td>24 hours.</td> </tr> <tr> <td>Result:</td> <td>Inhibits the releases of NO, TNF-α and IL-1β in LPS-induced BV2 cells. Attenuated IL-6, IL-1β and MCP-1 gene expressions in the LPS-induced BV2 cells. Suppressed JAK2/STAT3 pathway activation in the LPS-induced BV2 cells.</td> </tr> </table>		Cell Line:	Murine BV2 microglial cell line.	Concentration:	12.5, 25, 50 μM.	Incubation Time:	24 hours.	Result:	Inhibits the releases of NO, TNF-α and IL-1β in LPS-induced BV2 cells. Attenuated IL-6, IL-1β and MCP-1 gene expressions in the LPS-induced BV2 cells. Suppressed JAK2/STAT3 pathway activation in the LPS-induced BV2 cells.
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REFERENCES

[1]. Wang LC, et al. Protosappanin A exerts anti-neuroinflammatory effect by inhibiting JAK2-STAT3 pathway in lipopolysaccharide-induced BV2 microglia. *Chin J Nat Med.* 2017 Sep;15(9):674-679.

[2]. Zeng KW, et al. Protosappanin A inhibits oxidative and nitrative stress via interfering the interaction of transmembrane protein CD14 with Toll-like receptor-4 in lipopolysaccharide-induced BV-2 microglia. *Int Immunopharmacol*, 2012, 14(4): 558- 569.

Caution: Product has not been fully validated for medical applications. For research use only.

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