Protosappanin A

Cat. No.: HY-113573
CAS No.: 102036-28-2
Molecular Formula: C₁₅H₁₂O₅
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
* In solvent: -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)

BIOLOGICAL ACTIVITY

Description
Protosappanin A (PTA), an immunosuppressive ingredient and major biphenyl compound isolated from Caesalpinia sappan L, suppresses JAK2/STAT3-dependent inflammation pathway through down-regulating the phosphorylation of JAK2 and STAT3[1].

IC₅₀ & Target

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<th>JAK2</th>
<th>STAT3</th>
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In Vitro
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].
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].
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 nitritative stress in LPS-induced BV2 microglia[2].

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

Western Blot Analysis[1]

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<th>Murine BV2 microglial cell line.</th>
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<td>Concentration</td>
<td>12.5, 25, 50 μM.</td>
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<td>Incubation Time</td>
<td>24 hours.</td>
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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.

REFERENCES


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