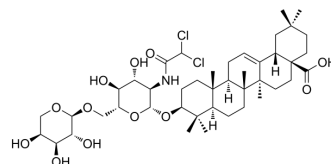


AlbA-DCA

Cat. No.:	HY-130117
CAS No.:	2413716-79-5
Molecular Formula:	C ₄₃ H ₆₇ Cl ₂ NO ₁₂
Molecular Weight:	860.9
Target:	Reactive Oxygen Species; Apoptosis
Pathway:	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	AlbA-DCA is a conjugate formed by the attachment of Albiziabioside A (AlbA) to a dichloroacetate acid (DCA) subunit. AlbA-DCA can induce a marked increase in intracellular ROS and alleviate the accumulation of lactic acid in tumor microenvironment (TME), and also selectively kills cancer cells and induce apoptosis ^[1] .																
IC₅₀ & Target	ROS ^[1]																
In Vitro	<p>AlbA-DCA exhibits the cytotoxicity against the MCF-7 cells, HCT116 cells, A375 cells, 4T1 cells, HBMEC cells and LO2 cells with IC₅₀ values of 0.43 μM, 3.87 μM, 3.78 μM, 1.31 μM, 38.20 μM and 53.14 μM, respectively^[1].</p> <p>AlbA-DCA (2 μM; 24 hours; MCF-7 cells) treatment induces apoptotic cell death in MCF-7 cells^[1].</p> <p>AlbA-DCA (2 μM; MCF-7 cells) treatment could significantly up-regulate the expression of cytochrome c and down-regulate the expression of antiapoptotic protein Bcl-2. AlbA-DCA significantly enhances the expression of caspase-9^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Apoptosis Analysis^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>MCF-7 cells</td> </tr> <tr> <td>Concentration:</td> <td>2 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>24 hours</td> </tr> <tr> <td>Result:</td> <td>Induced apoptosis of MCF-7 cells.</td> </tr> </table> <p>Western Blot Analysis^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>MCF-7 cells</td> </tr> <tr> <td>Concentration:</td> <td>2 μM</td> </tr> <tr> <td>Incubation Time:</td> <td></td> </tr> <tr> <td>Result:</td> <td>Could significantly up-regulate the expression of cytochrome c and down-regulate the expression of antiapoptotic protein Bcl-2. Significantly enhanced the expression of caspase-9.</td> </tr> </table>	Cell Line:	MCF-7 cells	Concentration:	2 μM	Incubation Time:	24 hours	Result:	Induced apoptosis of MCF-7 cells.	Cell Line:	MCF-7 cells	Concentration:	2 μM	Incubation Time:		Result:	Could significantly up-regulate the expression of cytochrome c and down-regulate the expression of antiapoptotic protein Bcl-2. Significantly enhanced the expression of caspase-9.
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In Vivo	AlbA-DCA (2 mg/kg; subcutaneous injection; every 2 days; for 2 weeks; nude mice) treatment displays antitumor efficacy and																

almost completely suppresses tumor progression, and no mouse deaths and no significant changes in body weight are observed. Alba-DCA has no obvious toxicity of liver and kidney and no major abnormality is observed in heart, liver, spleen, lung, and kidney^[1].

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Animal Model:	Nude mice bearing MCF-7 tumors ^[1]
Dosage:	2 mg/kg
Administration:	Subcutaneous injection; every 2 days; for 2 weeks
Result:	Displayed the best antitumor efficacy and almost completely suppressed tumor progression.

REFERENCES

[1]. Wei G, et al. Natural Product Albiziabioside A Conjugated with Pyruvate Dehydrogenase Kinase Inhibitor Dichloroacetate To Induce Apoptosis-Ferroptosis-M2-TAMs Polarization for Combined Cancer Therapy. J Med Chem. 2019 Oct 10;62(19):8760-8772.

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

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