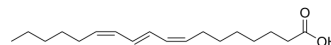


Jacaric acid

Cat. No.:	HY-121619
CAS No.:	28872-28-8
Molecular Formula:	C ₁₈ H ₃₀ O ₂
Molecular Weight:	278.43
Target:	Apoptosis
Pathway:	Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Jacaric acid is a conjugated linolenic acid, which inhibits viability in cells PC-3 (IC ₅₀ is 11.8 μM), LNCaP (IC ₅₀ is 2.2 μM) and DLD-1, induces apoptosis and necrosis ^[1] . Jacaric acid exhibits anticancer activity against prostate cancer and adenocarcinoma ^[2] . Jacaric acid exhibits immunomodulating activity in murine peritoneal macrophages as an immunopotentiator ^[3] . Jacaric acid is orally active.																
In Vitro	<p>Jacaric acid (0-10 μM) dose- and time-dependently induces apoptosis in cells PC-3 and LNCaP, through an intrinsic and an extrinsic pathway, respectively^[1].</p> <p>Jacaric acid (0-10 μM) induces cytotoxicity in DLD-1 cells through intracellular incorporation and induction of apoptosis via lipid peroxidation^[2].</p> <p>Jacaric acid (50-100 μM) activates the macrophage through secretion of cytokines IFN-γ, IL-1β and TNF-α, enhances the endocytic activity in murine peritoneal macrophages and induces the cytostatic activity in MBL-2 cells^[3].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Western Blot Analysis^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>PC-3, LNCaP</td> </tr> <tr> <td>Concentration:</td> <td>0-10 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>24 h</td> </tr> <tr> <td>Result:</td> <td>Increased cleaved PARP and caspase 9 in PC-3 cells. Increased cleaved PARP, caspase 8, caspase 9, p15 Bid and death receptor DR5 in LNCaP cells.</td> </tr> </table> <p>Apoptosis Analysis^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>PC-3, LNCaP, DLD-1</td> </tr> <tr> <td>Concentration:</td> <td>0-10 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>24 h for cells PC-3 and LNCaP, 12 h for cell DLD-1</td> </tr> <tr> <td>Result:</td> <td>Induced apoptosis.</td> </tr> </table>	Cell Line:	PC-3, LNCaP	Concentration:	0-10 μM	Incubation Time:	24 h	Result:	Increased cleaved PARP and caspase 9 in PC-3 cells. Increased cleaved PARP, caspase 8, caspase 9, p15 Bid and death receptor DR5 in LNCaP cells.	Cell Line:	PC-3, LNCaP, DLD-1	Concentration:	0-10 μM	Incubation Time:	24 h for cells PC-3 and LNCaP, 12 h for cell DLD-1	Result:	Induced apoptosis.
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In Vivo	Jacaric acid (1 mg/day/mouse, p.o. for 36 days) exhibits antitumor activity in DLD-1 transplanted athymic nude mice,																

without significant toxicity^[2].

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

Animal Model:	DLD-1 xenograft athymic nude mice ^[2]
Dosage:	1 mg/mouse
Administration:	p.o. for 36 days
Result:	Reduced tumor volume without significant weight loss in body and liver.

REFERENCES

- [1]. Gasmi J, et al., Jacaric acid and its octadecatrienoic acid geoisomers induce apoptosis selectively in cancerous human prostate cells: a mechanistic and 3-D structure-activity study. *Phytomedicine*. 2013 Jun 15;20(8-9):734-42..
- [2]. Shinohara N, et al., Jacaric acid, a linolenic acid isomer with a conjugated triene system, has a strong antitumor effect in vitro and in vivo. *Biochim Biophys Acta*. 2012 Jul;1821(7):980-8.
- [3]. Liu WN, et al., The Immunomodulatory Activity of Jacaric Acid, a Conjugated Linolenic Acid Isomer, on Murine Peritoneal Macrophages. *PLoS One*. 2015 Dec 2;10(12):e0143684.
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Caution: Product has not been fully validated for medical applications. For research use only.

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