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Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Cuminaldehyde (Standard)

Cat. No.: HY-Y0790R

CAS No.: 122-03-2

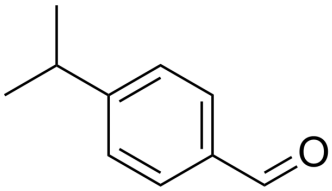
Molecular Formula: $C_{10}H_{12}O$

Molecular Weight: 148.2

Target: Endogenous Metabolite; Apoptosis; DNA/RNA Synthesis; α-synuclein; Lipoxygenase; Opioid Receptor; Interleukin Related; TNF Receptor

Pathway: Metabolic Enzyme/Protease; Apoptosis; Cell Cycle/DNA Damage; Neuronal Signaling; GPCR/G Protein; Immunology/Inflammation

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Cuminaldehyde (Standard) is the analytical standard of Cuminaldehyde. This product is intended for research and analytical applications. Cuminaldehyde is the main component of Cuminum cyminum and has multiple biological activities, including anti-inflammatory, anti-cancer, anti-diabetic, anti-injury, anti-neuropathy and antibacterial effects. Cuminaldehyde is an inhibitor of aldose reductase (IC_{50}= 0.00085 mg/mL) and α-glucosidase (IC_{50}=0.5 mg/mL). Cuminaldehyde can modulate α-synuclein fibrils. Cuminaldehyde can induce apoptosis in colon adenocarcinoma cells by targeting topoisomerase I and II. In addition, Cuminaldehyde also exerts anti-inflammatory activity by inhibiting lipoxygenase. Cuminaldehyde has a strong inhibitory effect on the growth of Aspergillus flavus and the biosynthesis of aflatoxin B1 (AFB1). Cuminaldehyde can exert anti-injury and anti-neuropathy effects by participating in opioid receptors, L-arginine/NO/cGMP pathways and anti-inflammatory effects. Cuminaldehyde has potential application value in the research of neurodegenerative diseases, cancer, diabetes and neuropathic pain diseases[1][2][3][4][5][6][7].

REFERENCES

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[3]. Tomy, et al. "Cuminaldehyde as a lipoxygenase inhibitor: in vitro and in silico validation." Applied biochemistry and biotechnology 174 (2014): 388-397.

[4]. Wongkattiya, et al. "Antibacterial activity of cuminaldehyde on food-borne pathogens, the bioactive component of essential oil from Cuminum cyminum L. collected in Thailand." Journal of Complementary and Integrative Medicine 16.4 (2019).

[5]. Dan Xu, et al. "Cuminaldehyde in cumin essential oils prevents the growth and aflatoxin B1 biosynthesis of Aspergillus flavus in peanuts." Food Control 125 (2021): 107985.

[6]. Koohsari, et al. "Antinociceptive and antineuropathic effects of cuminaldehyde, the major constituent of Cuminum cyminum seeds: Possible mechanisms of action." Journal of ethnopharmacology 255 (2020): 112786.

[7]. Hoi-Seon Lee, et al. "Cuminaldehyde: aldose reductase and α-glucosidase inhibitor derived from Cuminum cyminum L. seeds." Journal of agricultural and food chemistry 53.7 (2005): 2446-2450.

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

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