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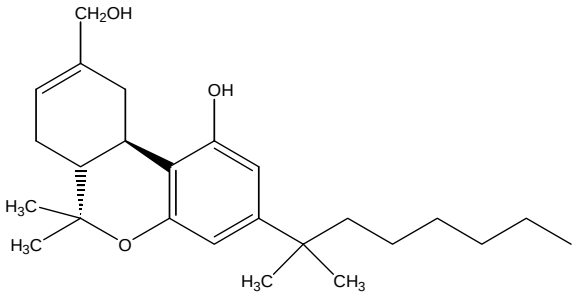
ProductInformation

HU-210

Product Number **H 7909**
Storage Temperature –20 °C

Cas #: 112830–95–2
Synonyms:
(6aR)-*trans*-3-(1,1-Dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6dimethyl-6H-dibenzo[b,d]pyran -9- methanol



Product Description
Molecular Formula: C_{25} H_{38} O_3
Molecular Weight: 386.57 (anhydrous)
Appearance: white solid
Purity: >98% (GC)
Melting Point: 72–75 °C

Cannabinoid receptors derive their name from the active ingredient of *Cannabis sativa* (marijuana). Mammalian tissues contain at least two types of cannabinoid receptor, CB_1 and CB_2, both coupled to G proteins. CB_1 receptors are expressed mainly by neurons of the central and peripheral nervous system whereas CB_2 receptors occur in certain non-neuronal tissues, particularly in immune cells. The activation of the CB_1 receptor initiates activation of the extracellular-signal-regulated protein kinase (ERK), c-Jun N-terminal kinase (JNK), mitogen-activated protein kinase (MAP kinase), followed by the inhibition of cAMP-dependent signaling, which results in complex changes in the expression of various genes.[1,2] There is a growing interest in cannabinoids and their role in pain control and muscle spasticity associated with multiple sclerosis or spinal cord injury. It has prompted the development of a range of novel cannabinoid receptor ligands, including several that show marked selectivity for CB_1 or CB_2 receptors.[3]

HU-210 is an analog of the tricyclic benzopyran Δ^9-THC. Originally this compound was thought to be selective for CB_1, however currently it is known that HU–210 binds equally to both CB_1 and CB_2 receptors. HU-210 intraperitoneal injection in rats, starting at 20 μg/kg, results in a dose-dependent inhibition of plasma growth hormone, follicle-stimulating hormone and luteinizing hormone. Plasma adrenocorticotropic hormone and corticosterone levels revealed a dose-dependent activation of the pituitary-adrenal axis after acute exposure to HU-210. Plasma prolactin levels reflected a biphasic action of HU-210: the 4 μg/kg dose resulted in high prolactin levels and the 20 and 100 μg/kg doses caused decrease in the levels of this hormone. HU-210 induces a set of endocrine alterations closely related to those described for natural cannabinoids such as Δ^9-THC. HU-210 is a more potent inhibitor with doses 50-200 times lower than those required for Δ^9-THC.[4]

Preparation Instructions
HU-210 is soluble in DMSO at 20 mg/ml. It is insoluble in water.

Storage/Stability
Store at –20 °C under nitrogen, desiccated.

References

1. Rodriguez de Fonseca, F., et al., Corticotropin-releasing factor (CRF) antagonist [D-Phe12,Nle21,38,C alpha MeLeu37]CRF attenuates the acute actions of the highly potent cannabinoid receptor agonist HU-210 on defensive-withdrawal behavior in rats., J. Pharmacol. Exp. Ther. , **276**, 56-64 (1996).
2. Berdyshev, E. V., et al., Cannabinoid-receptor-independent cell signaling by N-acylethanolamines., Biochem. J., **360**, 67-75 (2001).
3. Pertwee, R. G., Pharmacology of cannabinoid receptor ligands., Curr. Med. Chem., **6**, 635-664 (1999).
4. Martin–Calderon, J. E., et al., Characterization of the acute endocrine actions of (-)-11-hydroxy-delta8-tetrahydrocannabinol-dimethylheptyl (HU-210), a potent synthetic cannabinoid in rats., Eur. J. Pharmacol., **344,** 77-86 (1998).

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