

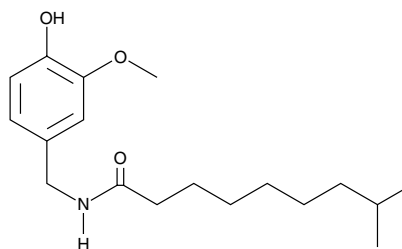
# Product Information



## Dihydrocapsaicin

Item No. 92355

**CAS Registry No.:** 19408-84-5  
**Formal Name:** N-[(4-hydroxy-3-methoxyphenyl)methyl]-8-methyl-nonanamide  
**MF:** C<sub>18</sub>H<sub>29</sub>NO<sub>3</sub>  
**FW:** 307.4  
**Purity:** ≥98%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A crystalline solid  
**UV/Vis.:** λ<sub>max</sub>: 230, 281 nm



### Laboratory Procedures

For long term storage, we suggest that dihydrocapsaicin be stored as supplied at -20°C. It should be stable for at least two years.

Dihydrocapsaicin is supplied as a crystalline solid. A stock solution may be made by dissolving the dihydrocapsaicin in an organic solvent purged with an inert gas. Dihydrocapsaicin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of dihydrocapsaicin in these solvents is approximately 33 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of dihydrocapsaicin can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of dihydrocapsaicin in PBS (pH 7.2) is approximately 100 µg/ml. We do not recommend storing the aqueous solution for more than one day.

Capsaicin is the primary active component of the heat and pain-eliciting lipid soluble fraction of the *Capsicum* pepper.<sup>1</sup> Capsaicin is found in natural hot pepper extracts along with a number of impurities, including dihydrocapsaicin and several lesser impurities. Separation by HPLC is required in order to obtain pure dihydrocapsaicin.<sup>2</sup> Dihydrocapsaicin represents about 10% of the compound present in commercial preparations purporting to be pure capsaicin. VR<sub>1</sub> (vanilloid receptor 1) is a heat activated calcium ion channel which functions as a part of the normal nociceptive pain pathway. Capsaicin elicits a sensation of burning pain by activation of VR<sub>1</sub> on small, non-myelinated polymodal C-type nociceptive nerve fibers.<sup>3</sup> The potency of dihydrocapsaicin at VR<sub>1</sub> appears equivalent to capsaicin.

### References

1. Gannett, P.M., Nagel, D.L., Reilly, P.J., *et al.* The capsaicinoids: their separation, synthesis, and mutagenicity. *J. Org. Chem.* **53(5)**, 1064-1071 (1988).
2. Hoffman, P.G., Lego, M.C., and Galetto, W.G. Separation and quantitation of red pepper major heat principles by reverse-phase high-pressure liquid chromatography. *J. Agric. Food Chem.* **31(6)**, 1326-1330 (1983).
3. Caterina, M.J., Schumacher, M.A., Tominaga, M., *et al.* The capsaicin receptor: A heat-activated ion channel in the pain pathway. *Nature* **389**, 816-824 (1997).

### Related Products

Arvanil - Item No. 90052 • Arachidonoyl Dopamine - Item No. 90057 • Olvanil - Item No. 90262

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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### Cayman Chemical

#### Mailing address

1180 E. Ellsworth Road  
Ann Arbor, MI  
48108 USA

#### Phone

(800) 364-9897  
(734) 971-3335

#### Fax

(734) 971-3640

#### E-Mail

custserv@caymanchem.com

#### Web

www.caymanchem.com