

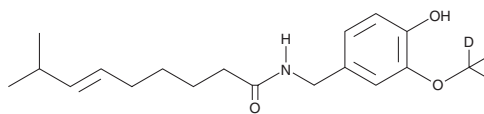
# PRODUCT INFORMATION



## (E/Z)-Capsaicin-d<sub>3</sub>

Item No. 34695

**CAS Registry No.:** 1185237-43-7  
**Formal Name:** N-[[4-hydroxy-3-(methoxy-d<sub>3</sub>)phenyl]methyl]-8-methyl-6-nonenamide  
**MF:** C<sub>18</sub>H<sub>24</sub>D<sub>3</sub>NO<sub>3</sub>  
**FW:** 308.4  
**Chemical Purity:** ≥98% (mixture of isomers) (Capsaicin)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>3</sub>); ≤1% d<sub>0</sub>  
**Supplied as:** A solution in methyl acetate  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Item Origin:** Synthetic



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

(E/Z)-Capsaicin-d<sub>3</sub> is intended for use as an internal standard for the quantification of capsaicin (Item Nos. 92350 | 10010743) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

(E/Z)-Capsaicin-d<sub>3</sub> is supplied as a solid. A stock solution may be made by dissolving the (E/Z)-capsaicin-d<sub>3</sub> in the solvent of choice, which should be purged with an inert gas. (E/Z)-Capsaicin-d<sub>3</sub> is soluble in chloroform, DMSO, dimethyl formamide, ethyl acetate, and methanol.

### Description

Capsaicin is a terpene alkaloid that has been found in *Capsicum* and has diverse biological activities.<sup>1-4</sup> It induces inward currents in HEK293 cells expressing rat transient receptor potential vanilloid 1 (TRPV1; EC<sub>50</sub> = 0.64 μM at neutral pH), an effect that can be blocked by the TRPV1 inhibitor A-425619.<sup>1</sup> Capsaicin (10 and 50 μM) decreases LPS-induced prostaglandin E<sub>2</sub> (PGE<sub>2</sub>; Item No. 14010) production, as well as reduces LPS- and IFN-induced nitric oxide (NO) release in isolated mouse peritoneal macrophages.<sup>2</sup> Capsaicin induces substance P (Item No. 24035) release in rat spinal cord slices with an EC<sub>50</sub> value of 2.3 μM.<sup>3</sup> It reduces acetylcholine- or phenylquinone-induced writhing (ED<sub>50</sub>s = 1.33 and 1.38 mg/kg, respectively, s.c.) but has no effect on the latency to paw withdrawal in the hot plate test in mice (ED<sub>50</sub> = >20 mg/kg, s.c.).<sup>4</sup> Formulations containing capsaicin have been used in the treatment of nerve pain associated with shingles.

### References

1. Neelands, T.R., Jarvis, M.F., Han, P., *et al.* Acidification of rat TRPV1 alters the kinetics of capsaicin responses. *Mol. Pain* **1**, 28 (2005).
2. Kim, C.-S., Kawada, T., Kim, B.-S., *et al.* Capsaicin exhibits anti-inflammatory property by inhibiting IκB-α degradation in LPS-stimulated peritoneal macrophages. *Cell. Signal.* **15**(3), 299-306 (2003).
3. Marvizón, J.C.G., Wang, X., Matsuka, Y., *et al.* Relationship between capsaicin-evoked substance P release and neurokinin 1 receptor internalization in the rat spinal cord. *Neuroscience* **118**(2), 535-545 (2003).
4. Hayes, A.G., Skingle, M., and Tyers, M.B. Effects of single doses of capsaicin on nociceptive thresholds in the rodent. *Neuropharmacology* **20**(5), 505-511 (1981).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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