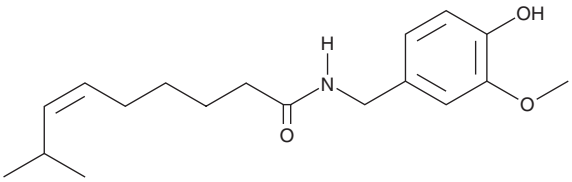
PRODUCT INFORMATION

(Z)-Capsaicin

Item No. 39929

CAS Registry No.:	25775-90-0
Formal Name:	N-[(4-hydroxy-3-methoxyphenyl) methyl]-8-methyl-6-nonenamide
Synonyms:	*cis*-Capsaicin, *cis*-8-methyl-N-Vanillyl-6-nonenamide, Zucapsaicin
MF:	$C_{18}H_{27}NO_3$
FW:	305.4
Purity:	≥95%
Supplied as:	A solid
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

(Z)-Capsaicin is supplied as a solid. A stock solution may be made by dissolving the (Z)-capsaicin in the solvent of choice, which should be purged with an inert gas. (Z)-Capsaicin is soluble in methanol and DMSO.

Description

(Z)-Capsaicin is an alkaloid that has been found in *Capsicum*, has diverse biological activities, and is the *cis*-isomer of capsaicin (Item Nos. 92350 | 10010743).[1-6] It is an agonist of transient receptor potential vanilloid 1 (TRPV1), inducing calcium uptake in CHO cells expressing human TRPV1 (EC_{50} = 28.2 nM).[2] (Z)-Capsaicin (10 µM) shortens the action potential duration in isolated canine Purkinje fibers.[3] It increases the latency to paw withdrawal in the hot plate test in rats when administered at a dose of 0.68 mmol/animal.[4] Topical application of (Z)-capsaicin (25 µl of a 1% solution) reduces croton oil-induced ear edema in mice. It induces emesis in musk shrews (*S. murinus*).[5] (Z)-Capsaicin decreases disease severity in a guinea pig model of genital herpes induced by herpes simplex virus 2 (HSV-2).[6] Formulations containing (Z)-capsaicin have been used in the treatment of osteoarthritis and neuropathic pain.

References

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2. Ann, J., Kim, H.S., Thorat, S.A., *et al.* Discovery of nonpungent transient receptor potential vanilloid 1 (TRPV1) agonist as strong topical analgesic. *J. Med. Chem.* **63(1)**, 418-424 (2020).
3. Arnar, D.O., Cai, J.J., Lee, H.-C., *et al.* Electrophysiologic effects of civamide (zucapsaicin) on canine cardiac tissue in vivo and in vitro. *J. Cardiovasc. Pharmacol.* **32(6)**, 875-883 (1998).
4. Janusz, J.M., Buckwalter, B.L., Young, P.A., *et al.* Vanilloids. 1. Analogs of capsaicin with antinociceptive and antiinflammatory activity. *J. Med. Chem.* **36**, 2595-2604 (1993).
5. Rudd, J.A. and Wai, M.K. Genital grooming and emesis induced by vanilloids in Suncus murinus, the house musk shrew. *Eur. J. Pharmacol.* **422(1-3)**, 185-195 (2001).
6. Bourne, N., Bernstein, D.I., and Stanberry, L.R. Civamide (*cis*-capsaicin) for treatment of primary or recurrent experimental genital herpes. *Antimicrob. Agents Chemother.* **43(11)**, 2685-2688 (1999).

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