PRODUCT INFORMATION

Capsaicin
Item No. 92350

CAS Registry No.: 404-86-4
Formal Name: N-[4-hydroxy-3-methoxyphenyl]methyl]-6E-8-methyl-nonenamide
MF: C_{18}H_{27}NO_{3}
FW: 305.4
Purity: ≥ 95%
UV/Vis.: \lambda_{max}^\text{nm}: 230, 281 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly

Laboratory Procedures

Capsaicin is supplied as a crystalline solid. A stock solution may be made by dissolving the capsaicin in an organic solvent purged with an inert gas. Capsaicin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of capsaicin in these solvents is at least 30 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 capsaicin can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of capsaicin in PBS (pH 7.2) is at least 0.1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Capsaicin is the primary active component of the heat and pain-eliciting lipid-soluble fraction of the Capsicum pepper.\textsuperscript{1} Capsaicin is present 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 capsaicin of consistently high purity and reproducible quality.\textsuperscript{2} \textit{VR}_1 is a heat-activated calcium ion channel which functions as part of the normal nociceptive pain pathway. Capsaicin elicits a sensation of burning pain by activation of \textit{VR}_1 on small, non-myelinated polymodal C-type nociceptive nerve fibers.\textsuperscript{3} Chronic application of capsaicin leads to desensitization of these pain fibers and has been widely exploited in various non-prescription pain remedies.

References