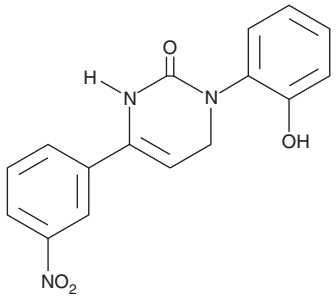
PRODUCT INFORMATION

Icilin

Item No. 10137

CAS Registry No.:	36945-98-9
Formal Name:	3,6-dihydro-1-(2-hydroxyphenyl)-4-(3-nitrophenyl)-2(1H)-pyrimidinone
Synonym:	AG 3-5
MF:	$C_{16}H_{13}N_3O_4$
FW:	311.3
Purity:	≥98%
Stability:	≥2 years at -20°C
Supplied as:	A crystalline solid



Laboratory Procedures

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

Icilin is supplied as a crystalline solid. A stock solution may be made by dissolving the icilin in an organic solvent purged with an inert gas. Icilin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of icilin in these solvents is approximately 25 mg/ml.

Icilin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, icilin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Icilin has a solubility of approximately 0.1 mg/ml in a 1:5 solution of DMSO:PBS (pH 7.2) using this method. Therefore, further dilutions of the organic solvent 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. We do not recommend storing the aqueous solution for more than one day.

Description

Nociceptive sensory peripheral neurons often express both heat sensitive (VR_1) and cold-sensitive (CMR1 (rat); TRPM8 (human)) receptors that are part of the transient receptor potential (TRP) superfamily. Icilin (AG 3-5) is a synthetic CMR1/TRPM8 super agonist that is 2.5-fold more efficacious and nearly 200-fold more potent than the reference cold thermosensory agonist *l*-menthol.[1] Icilin induces sensations of intense cold when applied orally in humans, and induces 'wet dog shakes', a behavioral marker of cold sensation, when given to rats. Icilin should serve as the reference cold nociceptive agonist for TRP-type ion channels in the future.[2]

References

1. McKemy, D.D., Neuhausser, W.M., and Julius, D. Identification of a cold receptor reveals a general role for TRP channels in thermosensation. *Nature* **416**, 52-58 (2002).
2. Wei, E.T. and Seid, D.A. AG-3-5: a chemical producing sensations of cold. *J. Pharm. Pharmacol.* **35**, 110-112 (1983).

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