

# PRODUCT INFORMATION



**HC-030031**

Item No. 11923

**CAS Registry No.:** 349085-38-7

**Formal Name:** 1,2,3,6-tetrahydro-1,3-dimethyl-N-[4-(1-methylethyl)phenyl]-2,6-dioxo-7H-purine-7-acetamide

**MF:** C<sub>18</sub>H<sub>21</sub>N<sub>5</sub>O<sub>3</sub>

**FW:** 355.4

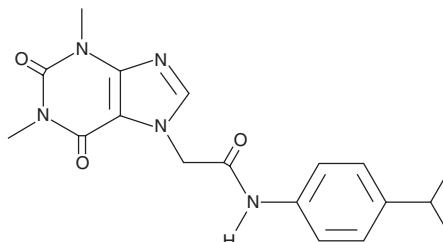
**Purity:** ≥98%

**UV/Vis.:** λ<sub>max</sub>: 248 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

HC-030031 is supplied as a crystalline solid. A stock solution may be made by dissolving the HC-030031 in the solvent of choice. HC-030031 is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of HC-030031 in these solvents is approximately 10 and 20 mg/ml, respectively.

HC-030031 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, HC-030031 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. HC-030031 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

## Description

Transient receptor potential cation channel A1 (TRPA1) is an ankyrin-like ion channel which acts as a sensor for chemical irritants, pain, and cold. It is activated by allyl isothiocyanate (AITC), formalin, hydrogen peroxide, tear gas, and other compounds.<sup>1-3</sup> HC-030031 is a selective TRPA1 blocker, antagonizing TRPA1-mediated calcium influx induced by AITC and formalin (IC<sub>50</sub>s = 6.2 and 5.3 μM, respectively).<sup>2</sup> It does not block currents mediated by TRPV1, TRPV3, TRPV4 hERG, or Na<sub>v</sub>1.2 channels.<sup>2</sup> HC-030031 can be used in cells or delivered to animals orally, by inhalation, or by injection.<sup>2,4-6</sup> Oral administration (100 mg/kg) of HC-030031 significantly reversed mechanical hypersensitivity in rat models of chronic inflammatory or neuropathic pain, while local injection (100 μg) into inflamed mouse hind paws attenuated mechanical, but not heat, hypersensitivity.<sup>4,6</sup>

## References

1. Macpherson, L.J., Dubin, A.E., Evans, M.J., *et al. Nature* **445**, 541-545 (2007).
2. McNamara, C.R., Mandel-Brehm, J., Bautista, D.M., *et al. Proc. Natl. Acad. Sci. USA* **104**(33), 13525-13530 (2007).
3. Andrade, E.L., Luiz, A.P., Ferreira, J., *et al. Neuroscience* **152**(2), 511-520 (2008).
4. Eid, S.R., Crown, E.D., Moore, E.L., *et al. Mol. Pain* **4**(48), (2008).
5. Daller, J.R., Wong, J., Brooks, B.D., *et al. J. Pharmacol. Toxicol. Methods* [In press] (2012).
6. Lennertz, R.C., Kossyrev, E.A., Smith, A.K., *et al. PLoS One* **7**(8), (2012).

### 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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