

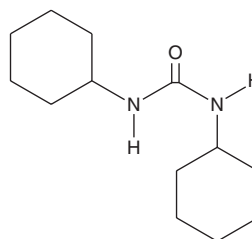
# PRODUCT INFORMATION



## N,N'-Dicyclohexylurea

Item No. 10004971

**CAS Registry No.:** 2387-23-7  
**Formal Name:** N,N'-dicyclohexyl-urea  
**Synonyms:** DCU, NSC 17013  
**MF:** C<sub>13</sub>H<sub>24</sub>N<sub>2</sub>O  
**FW:** 224.3  
**Purity:** ≥98%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

N,N'-Dicyclohexylurea (DCU) is supplied as a crystalline solid. If aqueous stock solutions are required for biological experiments, they can best be prepared by dissolving the compound with aqueous buffers or isotonic saline. 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

Epoxyeicosatrienoic acids (EETs), lipid mediators synthesized from arachidonic acid by cytochrome P450 epoxygenases, are converted by soluble epoxide hydrolase (sEH) to the corresponding dihydroxyeicosatrienoic acids (DHETs). DCU is a selective sEH inhibitor with IC<sub>50</sub> values of 160 and 90 nM for recombinant human and mouse sEH, respectively.<sup>1</sup> At 10 μM, DCU blocks the hydrolysis of *cis*- and *trans*-EETs by rat red blood cells and porcine coronary endothelial cells as well as completely inhibits 14(15)-EET-induced PPARα activation.<sup>2-4</sup>

### References

1. Morisseau, C., Goodrow, M.H., Dowdy, D., *et al.* Potent urea and carbamate inhibitors of soluble epoxide hydrolases. *Proc. Natl. Acad. Sci. USA* **96**, 8849-8854 (1999).
2. Jiang, H., Zhu, A.G., Mamczur, M., *et al.* Hydrolysis of *cis*- and *trans*-epoxyeicosatrienoic acids by rat red blood cells. *JPET* **326**, 330-337 (2008).
3. Fang, X., Kaduce, T.L., Weintraub, N.L., *et al.* Pathways of epoxyeicosatrienoic acid metabolism in endothelial cells. Implications for the vascular effects of soluble epoxide hydrolase inhibition. *J. Biol. Chem.* **276(18)**, 14867-14874 (2001).
4. Fang, X., Hu, S., Xu, B., *et al.* 14,15-Dihydroxyeicosatrienoic acid activates peroxisome proliferator-activated receptor α. *Am. J. Physiol. Heart Circ. Physiol.* **290**, H55-H63 (2006).

#### 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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