

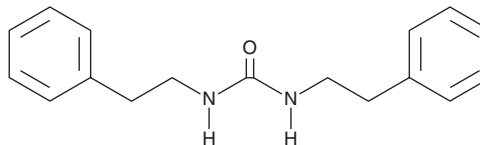
PRODUCT INFORMATION



N,N'-Diphenethylurea

Item No. 33580

CAS Registry No.: 5467-84-5
Formal Name: N,N'-bis(2-phenylethyl)-urea
Synonyms: 1,3-Diphenethylurea, NSC 25433
MF: C₁₇H₂₀N₂O
FW: 268.4
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

N,N'-Diphenethylurea is supplied as a solid. A stock solution may be made by dissolving the N,N'-diphenethylurea in the solvent of choice, which should be purged with an inert gas. N,N'-Diphenethylurea is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of N,N'-diphenethylurea in ethanol is approximately 1 mg/ml and approximately 30 mg/ml in DMSO and DMF.

N,N'-Diphenethylurea is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, N,N'-diphenethylurea should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. N,N'-Diphenethylurea has a solubility of approximately 0.20 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

N,N'-Diphenethylurea is a bacterial metabolite that has been found in *Streptomyces* and has diverse biological activities.¹ It inhibits *Streptomyces* chitin synthase 1 (IC₅₀ = 14 µg/ml) but not *C. albicans* chitin synthase 2 when used at concentrations up to 280 µg/ml. N,N'-Diphenethylurea is active against the fungus *C. neoformans* and the plant pathogenic fungus *R. solani* (MIC = 50 µg/ml for both).² It enhances insulin-induced adipocyte differentiation in 3T3-L1 and C3H/10T1/2 cells when used at concentrations of 30 and 100 µM.³

References

1. Iwai, Y., Hirano, A., Awaya, J., et al. 1,3-Diphenethylurea from *Streptomyces* sp. No. AM-2498. *J. Antibiot. (Tokyo)* **31(4)**, 375-376 (1978).
2. Kim, N.R., Hwang, E.I., Bong, S.K., et al. Isolation of *Candida albicans* chitin synthase 1 inhibitor from *Streptomyces* sp. A6705 and its characterization. *J. Microbiol. Biotechnol.* **15(4)**, 895-898 (2005).
3. Choi, S.-S., Cha, B.-Y., Kagami, I., et al. N,N'-diphenethylurea isolated from Okinawan ascidian *Didemnum molle* enhances adipocyte differentiation in 3T3-L1 cells. *J. Antibiot. (Tokyo)* **64(3)**, 277-280 (2011).

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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