

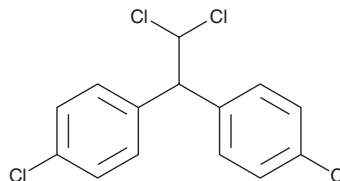
PRODUCT INFORMATION



p,p'-DDD

Item No. 24234

CAS Registry No.: 72-54-8
Formal Name: 1,1'-(2,2-dichloroethylidene)bis[4-chloro-benzene]
Synonyms: 4,4'-DDD, 4,4'-Dichlorodiphenyldichloroethane, *p,p'*-Dichlorodiphenyldichloroethane, NSC 8941
MF: C₁₄H₁₀Cl₄
FW: 320.0
Purity: ≥98%
Supplied as: A 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

p,p'-DDD is supplied as a solid. A stock solution may be made by dissolving the *p,p'*-DDD in the solvent of choice, which should be purged with an inert gas. *p,p'*-DDD is slightly soluble in chloroform.

Description

p,p'-DDD is a metabolite of the organochlorine pesticide DDT.¹ It is an agonist at estrogen receptor α (ER α) and ER β , increasing transactivation with 20% relative effective concentrations (REC₂₀) of 3.2 and 2.4 μ M, respectively, in CHO-K1 cells expressing the human receptors.² It inhibits DHT-induced androgen receptor transcription with a 20% relative inhibitory concentration (RIC₂₀) of 0.71 μ M. *p,p'*-DDD increases apoptosis in isolated human peripheral blood mononuclear cells (PBMCs) when used at concentrations of 100 and 150 μ g/ml.³ Blood levels of *p,p'*-DDD and the level of PBMC apoptosis are increased in children exposed to DDT compared with unexposed children. It is not considered lethal to hamsters (LD₅₀ = ~5,000 mg/kg) but is to rats (LD₅₀ = 3,750 mg/kg).⁴

References

1. Datta, P.R., Laug, E.P., and Klein, A.K. Conversion of *p,p'* DDT to *p,p'* DDD in the liver of the rat. *Science* **145(3636)**, 1052-1053 (1964).
2. Kojima, H., Katsura, E., Takeuchi, S., *et al.* Screening for estrogen and androgen receptor activities in 200 pesticides by *in vitro* reporter gene assays using Chinese hamster ovary cells. *Environ. Health Perspect.* **112(5)**, 524-531 (2004).
3. Pérez-Maldonado, I.N., Díaz-Barriga, F., de la Fuente, H., *et al.* DDT induces apoptosis in human mononuclear cells *in vitro* and is associated with increased apoptosis in exposed children. *Environ. Res.* **94(1)**, 38-46 (2004).
4. Truhaut, R., Gak, J.C., and Graillot, C. Modality and mechanism of the toxic action of organochlorine insecticides. I. Comparative study of the acute toxic effects on the hamster and the rat. *Eur. J. Toxicol. Environ. Hyg.* **7(3)**, 159-166 (1974).

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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