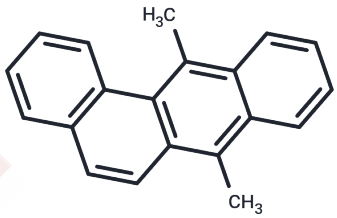
Data Sheet (Cat.No.T36696)

DMBA

Chemical Properties



CAS No. : 57-97-6

Formula: C20H16

Molecular Weight: 256.34

Storage: Store at low temperature,Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	DMBA (7,12-Dimethylbenz[a]anthracene) is a carcinogenic polycyclic aromatic hydrocarbon (PAH) that can be used to induce animal models of leukemia, liver cancer, breast cancer, skin cancer, and lung cancer. It is also capable of inducing programmed cell death (apoptosis) in A20.1 murine B-cell lymphoma.
Targets(IC50)	Apoptosis
In vivo	DMBA (0-150 mg/kg, oral administration) induces a decrease in spleen weight and a reduction in the total number of lymphocytes recovered from the spleen in C57BL/6 mice. This model can be used to establish induced cancer models such as skin carcinogenesis, breast cancer, and lung cancer[5].

Solubility Information

Solubility	Ethanol: 2 mg/mL (7.8 mM),Sonication and heating are recommended. DMSO: 23.18 mg/mL (90.43 mM),Sonication is recommended. Acetone: 15 mg/mL (58.52 mM),Sonification is recommended. DMF: 20 mg/mL (78.02 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 1.5 mg/mL (5.85 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.9011 mL	19.5053 mL	39.0107 mL
5 mM	0.7802 mL	3.9011 mL	7.8021 mL
10 mM	0.3901 mL	1.9505 mL	3.9011 mL
50 mM	0.078 mL	0.3901 mL	0.7802 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Csiszar A,et al. Chemically induced carcinogenesis in rodent models of aging: assessing organismal resilience to genotoxic stressors in geroscience research. Geroscience. 2019 Apr;41(2):209-227.
HUGGINS C, et al., Mammary cancer induced by a single feeding of polymucular hydrocarbons, and its suppression. Nature. 1961 Jan 21;189:204-7.
Goerttler K, et al., Skin tumor formation in the European hamster (Cricetus cricetus L.) after topical initiation with 7,12-dimethylbenz[a]anthracene (DMBA) and promotion with 12-O-tetradecanoylphorbol-13-acetate (TPA). Carcinogenesis. 1984 Apr;5(4):521-4.
Saini RK, et al. Pulmonary carcinogenesis in mice with a single intratracheal instillation of 9, 10-dimethyl benz[a] anthracene. Drug Chem Toxicol. 2008;31(4):459-71.
Gao J, et al. Microsomal expoxide hydrolase is required for 7,12-dimethylbenz[a]anthracene (DMBA)-induced immunotoxicity in mice. Toxicol Sci. 2007 Jul;98(1):137-44.
Allam AM,et al. Potential chemopreventive effects of Broccoli extract supplementation against 7, 12 dimethyl Benz (a)anthracene (DMBA) -induced toxicity in female rats. Sci Rep. 2023 Oct 11;13(1):17234.
Burchiel SW, et al. DMBA induces programmed cell death (apoptosis) in the A20.1 murine B cell lymphoma. Fundam Appl Toxicol. 1993 Jul;21(1):120-4.