

Product Data Sheet

Product Name: Phenethyl isothiocyanate

Cat. No.: GC49015

Chemical Properties

Cas. No. 2257-09-2

SMILES S=C=NCCC1=CC=CC=C1

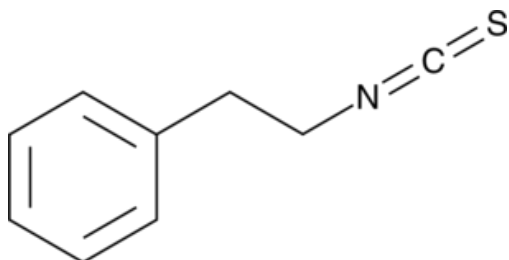
Formula C9H9NS M.Wt 163.2

Solubility DMF: 30 mg/ml, DMSO: 30 mg/ml, Ethanol: 30 mg/ml Storage -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

Phenethyl isothiocyanate (PEITC) is an isothiocyanate that has been found in cruciferous vegetables and has anticancer activity.¹ It inhibits the activity of glutathione peroxidase (GPX), reduces cellular glutathione (GSH) levels, and induces the accumulation of reactive oxygen species (ROS) in T72 ovarian epithelial cells expressing H-Ras^{V12} when used at a concentration of 10 μM.² PEITC (10 μM) induces cell cycle arrest at the G₂/M phase and apoptosis in PL45, MIA PaCa-2, and BxPC-3 pancreatic cancer cells.³ It decreases the number of tumor cells expressing Ki-67 or proliferating cell nuclear antigen (PCNA), markers of cell proliferation, and reduces tumor growth in a MIA PaCa-2 mouse xenograft model.

1. Gupta, P., Wright, S.E., Kim, S.-H., et al. Phenethyl isothiocyanate: A comprehensive review of anti-

Caution: Product has not been fully validated for medical applications. For research use only.

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cancer mechanisms Biochim. Biophys. Acta 1846(2):405-424 (2014) 2. Trachootham, D., Zhou, Y., Zhang, H., et al. Selective killing of oncogenically transformed cells through a ROS-mediated mechanism by beta-phenylethyl isothiocyanate Cancer Cell 10(3):241-252 (2006) 3. Stan, S.D., Singh, S.V., Whitcomb, D.C., et al. Phenethyl isothiocyanate inhibits proliferation and induces apoptosis in pancreatic cancer cells in vitro and in a MIAPaca2 xenograft animal model Nutr. Cancer 66(4):747-755 (2014)

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