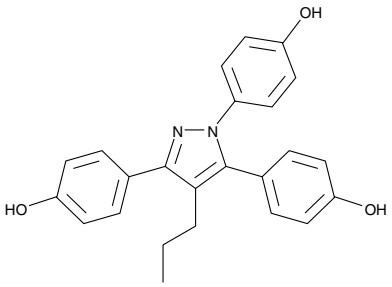
Product Information

Propylpyrazole Triol

Item No. 10008841

CAS Registry No.: 263717-53-9
Formal Name: 4,4',4"-(4-propyl-1H-pyrazole-1,3,5-triyl)tris-phenol
Synonym: PPT
MF: $C_{24}H_{22}N_2O_3$
FW: 386.4
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 255 nm



Laboratory Procedures

For long term storage, we suggest that propylpyrazole triol (PPT) be stored as supplied at -20°C. It should be stable for at least two years.

PPT is supplied as a crystalline solid. A stock solution may be made by dissolving the PPT in an organic solvent purged with an inert gas. PPT is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of PPT in ethanol is approximately 10 mg/ml and it is approximately 20 mg/ml in DMSO and DMF.

PPT is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, PPT should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. PPT has a solubility of approximately 0.15 mg/ml in a 1:10 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Estrogen receptor α (ERα) and ERβ are ligand-activated transcription factors that mediate the actions of estrogen. Activation of ERα, but not ERβ, is required for the cardioprotective effects of estradiol. PPT is an ERα selective agonist with a 410-fold relative binding affinity for ERα (49%) *versus* ERβ (0.12%) and therefore activates gene transcription only through ERα.[1,2] In an *in vivo* rabbit model of ischemia-reperfusion injury, treatment with estradiol and PPT, but not diarylpropinitrile (a selective agonist of ERβ) significantly decreased the infarct size compared with vehicle.[3]

References

1. Stauffer, S.R., Coletta, C.J., Tedesco, R., *et al.* Pyrazole ligands: Structure-affinity/activity relationships and estrogen receptor-α-selective agonists. *J. Med. Chem.* **43**, 4934-4947 (2000).
2. Meyers, M.J., Sun, J., Carlson, K.E., *et al.* Estrogen receptors-β potency-selective ligands: Structure-activity relationship studies of diarylpropionitriles and their acetylene and polar analogus. *J. Med. Chem.* **44**, 4230-4251 (2001).
3. Booth, E.A., Obeid, N.R., and Lucchesi, B.R. Activation of estrogen receptor-α protects the *in vivo* rabbit heart from ischemia-reperfusion injury. *Am. J. Physiol.* **289**, H2039-H2047 (2005).

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Cayman Chemical

Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
(734) 971-3335

Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com