

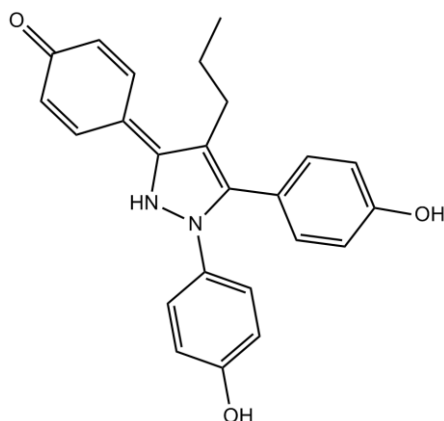
## Product Data Sheet

Product Name: PPT  
 Cat. No.: GC14370  
 Chemical Name: 4-(1,5-bis(4-hydroxyphenyl)-4-propyl-1H-pyrazol-3(2H)-ylidene)cyclohexa-2,5-dienone

### CHEMICAL PROPERTIES

Cas No.: 263717-53-9  
 Molecular Formula: C<sub>24</sub>H<sub>22</sub>N<sub>2</sub>O<sub>3</sub>  
 Molecular Weight: 386.45  
 Storage: Powder            -80°C    2 years  
                                      -20°C    1 year  
                                      In solvent   -80°C    6 months  
                                                    -20°C    1 month  
 Solubility: ≤10mg/ml in ethanol;20mg/ml in DMSO

Chemical Structure:



### Background

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

### Reference:

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