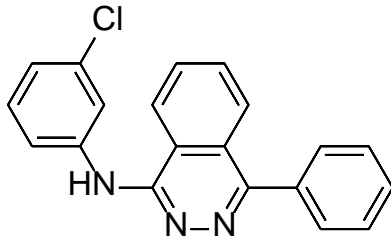


Product data sheet



MedKoo Cat#: 584765 Name: MY 5445 CAS: 78351-75-4 Chemical Formula: C ₂₀ H ₁₄ ClN ₃ Exact Mass: 331.0876 Molecular Weight: 331.803		
Product supplied as:		Powder
Purity (by HPLC):		≥ 98%
Shipping conditions		Ambient temperature
Storage conditions:		Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

MY 5445 is a potential platelet aggregation inhibitor.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	2.0	6.03
DMSO	26.0	78.36
DMSO:PBS (pH 7.2) (1:2)	0.3	0.90

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.01 mL	15.07 mL	30.14 mL
5 mM	0.60 mL	3.01 mL	6.03 mL
10 mM	0.30 mL	1.51 mL	3.01 mL
50 mM	0.06 mL	0.30 mL	0.60 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Wu CP, Lusvardi S, Tseng PJ, Hsiao SH, Huang YH, Hung TH, Ambudkar SV. MY-5445, a phosphodiesterase type 5 inhibitor, resensitizes ABCG2-overexpressing multidrug-resistant cancer cells to cytotoxic anticancer drugs. *Am J Cancer Res.* 2020 Jan 1;10(1):164-178. PMID: 32064159; PMCID: PMC7017726.

2. Hagiwara M, Endo T, Kanayama T, Hidaka H. Effect of 1-(3-chloroanilino)-4-phenylphthalazine (MY-5445), a specific inhibitor of cyclic GMP phosphodiesterase, on human platelet aggregation. *J Pharmacol Exp Ther.* 1984 Feb;228(2):467-71. PMID: 6141286.

In vivo study

1. Xu HL, Wolde HM, Gavrilyuk V, Baughman VL, Pelligrino DA. cAMP modulates cGMP-mediated cerebral arteriolar relaxation in vivo. *Am J Physiol Heart Circ Physiol.* 2004 Dec;287(6):H2501-9. doi: 10.1152/ajpheart.00319.2004. Epub 2004 Jul 22. PMID: 15271668.

2. Duarte ID, dos Santos IR, Lorenzetti BB, Ferreira SH. Analgesia by direct antagonism of nociceptor sensitization involves the arginine-nitric oxide-cGMP pathway. *Eur J Pharmacol.* 1992 Jul 7;217(2-3):225-7. doi: 10.1016/0014-2999(92)90881-4. PMID: 1330593.

Product data sheet



7. Bioactivity

Biological target:

MY-5445 is a specific inhibitor of the cyclic GMP phosphodiesterase, phosphodiesterase type 5 (PDE5), with a K_i of 1.3 μM .

In vitro activity

This study discovered that by inhibiting the drug transport function of ABCG2, MY-5445 potentiates drug-induced apoptosis in ABCG2-overexpressing multidrug-resistant cancer cells and resensitizes these cells to chemotherapeutic drugs. This study's data of MY-5445 stimulating the ATPase activity of ABCG2 and molecular docking analysis of its binding to the substrate-binding pocket of ABCG2 provide additional insight into the manner in which MY-5445 interacts with ABCG2. Furthermore, this study found that ABCG2 does not confer resistance to MY-5445 in human cancer cells.

Reference: Am J Cancer Res. 2020 Jan 1;10(1):164-178. <https://pubmed.ncbi.nlm.nih.gov/32064159/>

In vivo activity

The NO inhibitor, NG-monomethyl-L-arginine (50 micrograms/paw) and methylene blue (500 micrograms/paw) abolished the analgesic effect of dipyron and myrcene. Dibutyryl cyclic adenosine monophosphate (DbcAMP) caused a dose-dependent hyperalgesia (20, 50 and 100 micrograms/paw). Only responses to low doses of DbcAMP were inhibited by the two analgesics. Pretreatment with MY5445 (50 micrograms/paw) resulted in potentiation of the effects of both analgesics.

Reference: Eur J Pharmacol. 1992 Jul 7;217(2-3):225-7. <https://pubmed.ncbi.nlm.nih.gov/1330593/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.