

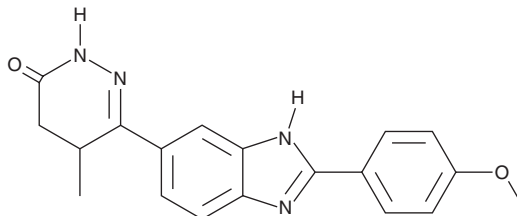
PRODUCT INFORMATION



Pimobendan

Item No. 26082

CAS Registry No.: 74150-27-9
Formal Name: 4,5-dihydro-6-[2-(4-methoxyphenyl)-1H-benzimidazol-6-yl]-5-methyl-3(2H)-pyridazinone
Synonym: UD-CG 115
MF: C₁₉H₁₈N₄O₂
FW: 334.4
Purity: ≥95%
UV/Vis.: λ_{max}: 268, 329 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Pimobendan is supplied as a crystalline solid. A stock solution may be made by dissolving the pimobendan in the solvent of choice, which should be purged with an inert gas. Pimobendan is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of pimobendan in these solvents is approximately 5 and 1 mg/ml, respectively.

Pimobendan is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, pimobendan should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Pimobendan has a solubility of approximately 0.125 mg/ml in a 1:7 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Pimobendan is an inhibitor of phosphodiesterase 3 (PDE3; IC₅₀ = 0.32 μM for guinea pig cardiac enzyme) that is selective for PDE3 over PDE1, PDE2, and PDE4 (IC₅₀s = >30 μM).¹ It is also a calcium sensitizer, decreasing the concentration of calcium required for half-maximal contractile force in isolated, skinned porcine ventricular fibers. Pimobendan increases the force of contraction in electrically-stimulated isolated guinea pig papillary muscles with an EC₅₀ value of 6 μM, indicating positive inotropic effects.² It increases survival time in dogs with congestive heart failure due to myxomatous mitral valve disease when administered in combination with angiotensin-converting enzyme inhibitors and furosemide (Item No. 17273).³ Formulations containing pimobendan have been used in the treatment of heart failure in dogs.

References

1. Beier, N., Harting, J., Jonas, R., *et al.* The novel cardiotonic agent EMD 53 998 is a potent "calcium sensitizer". *J. Cardiovasc. Pharmacol.* **18(1)**, 17-27 (1991).
2. Brunkhorst, D., v der Leyen, H., Meyer, W., *et al.* Relation of positive inotropic and chronotropic effects of pimobendan, UD-CG 212 Cl, milrinone and other phosphodiesterase inhibitors to phosphodiesterase III inhibition in guinea-pig heart. *Naunyn Schmiedebergs Arch. Pharmacol.* **339(5)**, 575-583 (1989).
3. Mizuno, M., Yamano, S., Chimura, S., *et al.* Efficacy of pimobendan on survival and reoccurrence of pulmonary edema in canine congestive heart failure. *J. Vet. Med. Sci.* **79(1)**, 29-34 (2017).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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