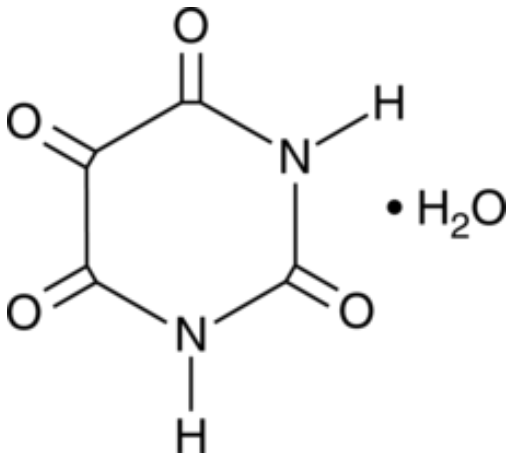
Product Data Sheet

Product Name: Alloxan (hydrate)
Cat. No.: GC45379

Chemical Properties

Cas. No.	2244-11-3		
SMILES	O=C(C(C(N1)=O)=O)NC1=O.O		
Formula	$C_4H_2N_2O_4.H_2O$	M.Wt	160.1
Solubility	DMF: 5 mg/ml,DMSO: 5 mg/ml,PBS (pH 7.2): 10 mg/ml	Storage	Store at -20°C,protect from light
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

Alloxan is a toxin that selectively eliminates pancreatic β-cells in mice, rats, and certain other animals, and is used to model type 1 diabetes in humans.1 Reduction of alloxan within β-cells precedes the generation of reactive oxygen species, which in turn contribute to β-cell death.2 The dose of alloxan needed to destroy beta cells, and thus induce diabetes, depends on the animal species, route of administration, and nutritional status.2,3,4

References

Caution: Product has not been fully validated for medical applications. For research use only.
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1. Dunn, J.S., Duffy, E., Gilmour, M.K., et al. Further observations on the effects of alloxan on the pancreatic islets. Journal of Physiology 103(2), 233-243 (1944).
2. Szkudelski, T. The mechanism of alloxan and streptozotocin action in B cells of the rat pancreas. Physiol. Res. 50(6), 537-546 (2001).
3. Eizirik, D.L., Pipeleers, D.G., Ling, Z., et al. Major species differences between humans and rodents in the susceptibility to pancreatic β-cell injury. Proceedings of the National Academy of Sciences of the United States of America 91(20), 9253-9256 (1994).
4. Tyberg, B., Andersson, A., and Borg, L.A. Species differences in susceptibility of transplanted and cultured pancreatic islets to the β-cell toxin alloxan. General and Comparative Endocrinology 122, 238-251 (2001).

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