

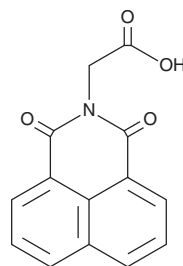
# PRODUCT INFORMATION



## Alrestatin

Item No. 29888

**CAS Registry No.:** 51411-04-2  
**Formal Name:** 1,3-dioxo-1H-benz[de]isoquinoline-2(3H)-acetic acid  
**Synonyms:** AY 22284, NSC 299132  
**MF:** C<sub>14</sub>H<sub>9</sub>NO<sub>4</sub>  
**FW:** 255.2  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 213, 233, 332 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

Alrestatin is supplied as a crystalline solid. A stock solution may be made by dissolving the alrestatin in the solvent of choice, which should be purged with an inert gas. Alrestatin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of alrestatin in these solvents is approximately 30 mg/ml.

Alrestatin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, alrestatin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Alrestatin has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Alrestatin is an inhibitor of aldehyde reductase (IC<sub>50</sub> = 1.5 μM for rat lens enzyme).<sup>1</sup> It is selective for rat lens aldehyde reductase over rat kidney aldehyde reductase (IC<sub>50</sub> = 58 μM). Alrestatin reduces basal and tyramine-induced norepinephrine release in rat pancreatic preparations.<sup>2</sup> *In vivo*, alrestatin (0.75 mmol/kg) increases plasma insulin levels in fasted anesthetized rats. Alrestatin inhibits the lens and sciatic nerve accumulation of polyols in a rat model of streptozotocin-induced diabetes.<sup>3</sup> It also inhibits gastric acid secretion and ulcer formation induced by pyloric ligation in rats (ED<sub>50</sub>s = 90 and 330 mg/kg, respectively).

### References

1. Sato, S. and Kador, P.F. Inhibition of aldehyde reductase by aldehyde reductase inhibitors. *Biochem. Pharmacol.* **40(5)**, 1033-1042 (1990).
2. Kobric, M. and Lippmann, W. Effect of alrestatin sodium on glucose-stimulated insulin secretion in the fasted anaesthetized rat. *Horm. Metab. Res.* **10(6)**, 495-500 (1978).
3. Lippmann, W., Seethaler, K., Borella, L.E., et al. Alrestatin: Gastric acid antisecretory-antiulcer activity in the rat. *Digestion* **18(1-2)**, 35-44 (1978).

#### 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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