

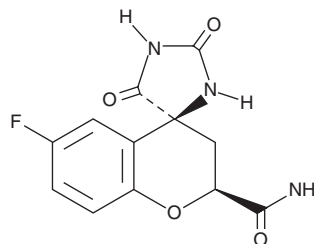
# PRODUCT INFORMATION



## Fidarestat

Item No. 21756

**CAS Registry No.:** 136087-85-9  
**Formal Name:** (2S,4S)-6-fluoro-2,3-dihydro-2',5'-dioxo-spiro[4H-1-benzopyran-4,4'-imidazolidine]-2-carboxamide  
**MF:** C<sub>12</sub>H<sub>10</sub>FN<sub>3</sub>O<sub>4</sub>  
**FW:** 279.2  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 204, 283 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

Fidarestat is supplied as a crystalline solid. A stock solution may be made by dissolving the fidarestat in the solvent of choice, which should be purged with an inert gas. Fidarestat is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of fidarestat in these solvents is approximately 1, 5, and 3 mg/ml, respectively.

Fidarestat is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, fidarestat should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Fidarestat has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Fidarestat is an aldose reductase inhibitor (IC<sub>50</sub> = 0.026 μM using human recombinant enzyme) that also inhibits aldo-keto reductase family 1 member B10 (AKR1B10; IC<sub>50</sub> = 33 μM using human recombinant enzyme).<sup>1</sup> It decreases sorbitol and myo-inositol levels in the sciatic nerve of rats with diabetes induced by streptozotocin (STZ; Item No. 13104) when administered at a dose of 2 mg/kg per day.<sup>2</sup> Fidarestat (2 mg/kg per day) decreases nerve fiber abnormalities and reverses slowing of motor nerve conduction velocity (MNCV) in an STZ-induced diabetic rat model of peripheral neuropathy. It decreases the pain threshold in STZ-induced diabetic mice that overexpress human aldose reductase when administered at 4 mg/kg per day.<sup>3</sup> Fidarestat (50 mg/kg per day) decreases metastasis in a KM20 human colorectal cancer mouse xenograft model.<sup>4</sup>

### References

1. Ruiz, F.X., Cousido-Siah, A., Mitschler, A., et al. *Chem. Biol. Interact.* **202(1-3)**, 178-185 (2013).
2. Kato, N., Mizuno, K., Matsubara, A., et al. *J. Diabetes Complications* **8(1)**, 27-32 (1994).
3. Uehara, K., Yamagishi, S., Otsuki, S., et al. *Diabetes* **53(12)**, 3239-3247 (2004).
4. Tammali, R., Reddy, A.B., Saxena, A., et al. *Carcinogenesis* **32(8)**, 1259-1267 (2011).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/08/2022

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM