Product Specification Sheet

**Product Name:** Tolrestat

**Catalog Number:** C8657

**Technical Information:**

- **Chemical Formula:** C₁₆H₁₄F₃NO₃S
- **CAS #:** 82964-04-3
- **Molecular Weight:** 357.35
- **Purity:** > 98%
- **Appearance:** white solid
- **Solubility:** Soluble in DMSO up to 22 mM
- **Chemical Name:** 2-(6-methoxy-N-methyl-5-(trifluoromethyl)naphthalene-1-carbothioamido)acetic acid
- **Storage:** Store solid powder at 4°C desiccated; Store DMSO solution at -20°C.
- **Shelf Life:** In the unopened package, powder is stable for 1 year and DMSO solution is stable for 6 months under proper storage condition.

**Handling:**
- To make 10 mM stock solution, add 0.28 mL of DMSO for each mg of Tolrestat.
- For DMSO solution, briefly spin the vial at 500 rpm in a 50 mL conical tube to ensure maximum sample recovery.

**Biological Activity:** Tolrestat is a thioamide-based inhibitor of aldose reductase with an IC₅₀ activity of 35 nM. (1) Along with other similar therapies, Tolrestat has implications in the treatment of diabetic complications, such as diabetic neuropathy, in a manner independent of insulin-related control of blood glucose levels. (2)

In rat diabetes models, Tolrestat reduces sorbitol concentrations in the sciatic nerve and eye lens, as well as prevents diabetic retinopathy, cataracts, thickening of the retinal basement membrane, and nerve dysfunction. Additionally, Tolrestat reduces urinary albumin excretion. (3)

**Reference:**


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