Product Data Sheet

Chemical Properties

**Product Name:** Pimozide

**Cas No.:** 2062-78-4

**M.Wt:** 461.6

**Formula:** C28H29F2N3O

**Synonyms:** NSC 170984, Orap, R 6238

**Chemical Name:** 1-[1-[4,4-bis(4-fluorophenyl)butyl]-4-piperidinyl]-1,3-dihydro-2H-benzimidazol-2-one

**Canonical SMILES:** FC1=CC=C(C(CCN2CCC(N3C(NC4=C3C=CC=C4)=O)CC2)C5=CC=C(F)C=C5)C=C1

**Solubility:** Soluble in DMSO

**Storage:** Store at -20°C

**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.

**Shopping Condition:**
- Evaluation sample solution: ship with blue ice
- All other available size: ship with RT, or blue ice upon request

Biological Activity

**Targets:** Neuroscience

**Pathways:** Dopamine Receptor

**Description:**

Pimozide is a chemically novel, highly potent and orally long-acting neuroleptic dopamine receptors inhibitor [1]. Dopamine receptors belong to G protein-coupled receptor containing five subtypes termed D1, D2, D3, D4, and D5. Dopamine receptors have been involved in many physiological functions of the catecholaminergic neurotransmitter dopamine, ranging from voluntary movement to
hormonal regulation and hypertension. Pharmacological drugs targeting dopaminergic neurotransmission have been clinically used in several neurological and psychiatric disorders, such as schizophrenia, Parkinson's disease, Huntington's disease, bipolar disorder, attention deficit hyperactivity disorder (ADHD), and Tourette's syndrome [2].

In vitro: Pimozide displayed high affinity for dopamine receptors. The Ki values for D2, D3, and D4 were 2.4, 0.2, and 1.8 nM, respectively [3].

In vivo: In hungry rats, pimozide attenuated lever-pressing and running for food reward. Pimozide pretreatment attenuated acquisition of a lever-pressing habit motivated by food reward in a dose-dependent manner[4]. In 31 male Wistar rats self-administering cocaine, pimozide caused a dose-dependent (0.0625–0.5 mg/kg) acceleration of responding [5].

Clinical trials: Pimozide was effective in treating Tourette's syndrome and positive psychotic symptoms in schizophrenia. Results from studies ranging from clinical vignettes to controlled trials indicated that pimozide also ameliorated negative schizophrenic symptoms, treated monosymptomatic delusional psychosis resistant to other neuroleptics, and treated pain syndromes [6].

Reference:
recommendations on the product data sheet.