

---

**Product Data Sheet**

---

Product Name: SX-3228  
Cat. No.: GC31196

**Chemical Properties**

Cas. No. 156364-04-4

SMILES O=C1NC2=C(CN(CC3=CC=CC=C3)CC2)C=C1C4=NN=C(OC)O4

Formula  $C_{18}H_{18}N_4O_3$  M.Wt 338.36

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.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure

**Protocol****Animal experiment:**

Rats[1] Twelve male Wistar rats (350-380 g) are used. Subcutaneous (sc) injections are given in a final volume of 1.0 mL/kg. All rats are given the corresponding volume of control solution (saline+Tween-80) in the control sessions. Following sc injection, a 6-h sleep recording is started at approximately 8:00 a.m. At least 4 days are allowed to elapse between injections to avoid long-lasting and rebound effects on sleep. The effects of SX-3228 0.5-2.5 mg/kg are studied in one group of animals (N=6) during the light phase of the 12-h light:12-h dark cycle, starting 1 h after the beginning of the light period. Polysomnographic recordings are started immediately after control solution or drug administration. Each rat receives all four treatments (control, and 0.5, 1.0, 2.5 mg/kg SX-3228).

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

---

## Product Data Sheet

---

### References:

[1]. Alvariño F, et al. Effect of SX-3228, a selective ligand for the BZ1 receptor, on sleep and waking during the light-dark cycle in the rat. Braz J Med Biol Res. 1999 Aug;32(8):1007-14.

### Background

SX-3228 is a selective benzodiazepine1 (BZ1) receptor agonist with an IC50 of 17 nM.

SX-3228 is a selective ligand for the BZ1 receptor. Among the BZ-receptor subtypes, SX-3228 preferentially binds to the BZ1 receptor (IC50=17 nM). It has very weak affinity for the BZ2 receptor (spinal cord: IC50=127 nM), and virtually no affinity for the peripheral type BZ receptor (kidney: IC50>10000 nM). A compound with similar selectivity, SX-3228 has been shown to bind to BZ receptors, but not to dopamine (D1, D2), serotonin (5-HT1, 5-HT2 and 5-HT3 subtypes), noradrenaline ( $\alpha$ 1,  $\alpha$ 2,  $\beta$ ), GABA or acetylcholine (muscarinic) subtypes[1].

Administration of 0.5-2.5 mg/kg SX-3228 to rats during the light phase induces a significant reduction of rapid-eye-movement sleep (REMS) ( $P<0.05$ ) during the third recording hour. Administration of SX-3228 (0.5-2.5 mg/kg) at the beginning of the dark period significantly and dose-dependently reduces waking (W) and increases slow wave sleep (SWS) during the 6-h recording period ( $P<0.05-0.01$ ); however, significant changes during the last recording hour are restricted to the 2.5 mg/kg dose ( $P<0.01$ )[1].

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

---

## Product Data Sheet

---

[1]. Alvario F, et al. Effect of SX-3228, a selective ligand for the BZ1 receptor, on sleep and waking during the light-dark cycle in the rat. Braz J Med Biol Res. 1999 Aug;32(8):1007-14.

**Caution: Product has not been fully validated for medical applications. For research use only.**

**Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com**

**Address: 10292 Central Ave. #205, Montclair, CA, USA**