

# PRODUCT INFORMATION

## S1RA

Item No. 16279

CAS Registry No.: 878141-96-9

Formal Name: 4-[2-[[5-methyl-1-(2-naphthalenyl)-1H-pyrazol-3-yl]oxy]ethyl]-morpholine

Synonym: E-52862

MF:  $C_{20}H_{23}N_3O_2$

FW: 337.4

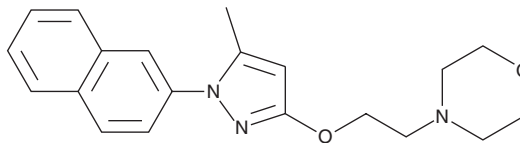
Purity:  $\geq 98\%$

UV/Vis.:  $\lambda_{max}$ : 218, 258 nm

Supplied as: A crystalline solid

Storage:  $-20^{\circ}\text{C}$

Stability:  $\geq 4$  years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

S1RA is supplied as a crystalline solid. A stock solution may be made by dissolving the S1RA in the solvent of choice, which should be purged with an inert gas. S1RA is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of S1RA in these solvents is approximately 1, 15, and 10 mg/ml, respectively.

S1RA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, S1RA should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. S1RA 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

S1RA is a sigma-1 ( $\sigma_1$ ) receptor antagonist ( $K_i = 17$  nM).<sup>1</sup> It is selective for  $\sigma_1$  receptors over  $\sigma_2$  receptors ( $K_i = 9,300$  nM), as well as a panel of 170 additional receptors at 1  $\mu\text{M}$ . S1RA reduces capsaicin-induced mechanical allodynia, formalin-induced licking and biting behavior, and partial sciatic nerve ligation-induced thermal hyperalgesia in mice ( $\text{ED}_{50}\text{s} = 26.3, 43.7, \text{ and } 18.8$  mg/kg, respectively). It also enhances fentanyl- or loperamide-induced analgesia without affecting gastrointestinal transit in mice.<sup>2</sup>

### References

- Romero, L., Zamanillo, D., Nadal, X., *et al.* Pharmacological properties of S1RA, a new sigma-1 receptor antagonist that inhibits neuropathic pain and activity-induced spinal sensitization. *Br. J. Pharmacol.* **166**(8), 2289-2306 (2012).
- Sánchez-Fernández, C., Montilla-García, Á., González-Cano, R., *et al.* Modulation of peripheral  $\mu$ -opioid analgesia by  $\sigma_1$  receptors. *J. Pharmacol. Exp. Ther.* **348**(1), 32-45 (2014).

#### 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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