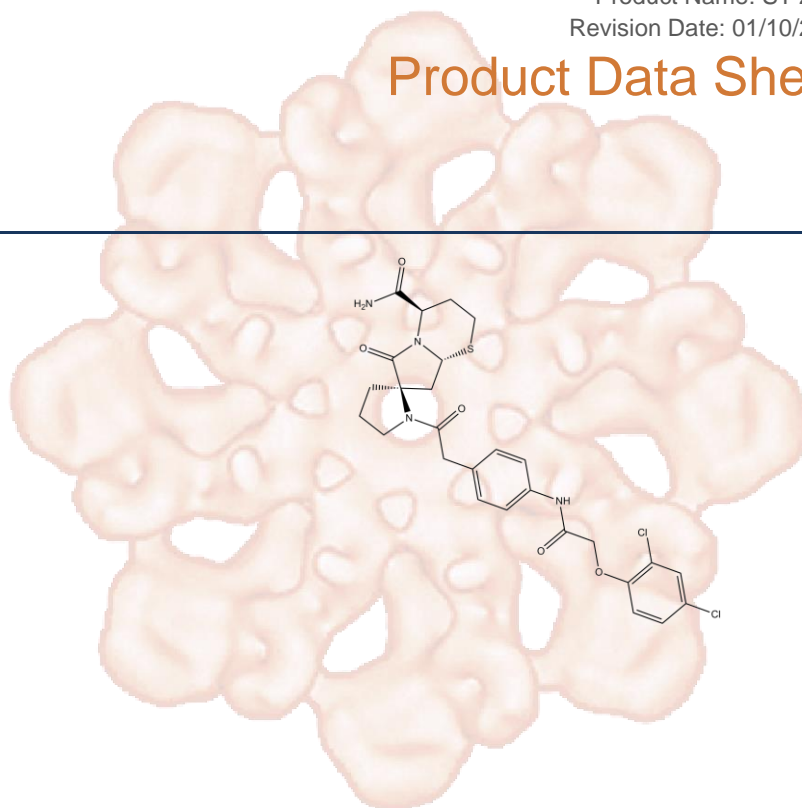


# Product Data Sheet

## ST 2825

<b>Cat. No.:</b>	A3840
<b>CAS No.:</b>	894787-30-5
<b>Formula:</b>	C <sub>27</sub> H <sub>28</sub> Cl <sub>2</sub> N <sub>4</sub> O <sub>5</sub> S
<b>M.Wt:</b>	591.51
<b>Synonyms:</b>	ST2825;ST-2825
<b>Target:</b>	Others
<b>Pathway:</b>	MyD88
<b>Storage:</b>	Store at -20°C



## Solvent & Solubility

Soluble in DMSO

In Vitro

Preparing Stock Solutions	Mass		1mg	5mg	10mg
	Solvent	Concentration			
		1 mM	1.6906 mL	8.4529 mL	16.9059 mL
		5 mM	0.3381 mL	1.6906 mL	3.3812 mL
		10 mM	0.1691 mL	0.8453 mL	1.6906 mL

Please refer to the solubility information to select the appropriate solvent.

## Biological Activity

Shortsummary

Inhibitor of MyD88 dimerization

 IC<sub>50</sub> & Target

In Vitro

### Cell Viability Assay

Cell Line:	HEK 293T and HeLa cell [1], B cells and plasmacytoid dendritic cells [1]
Preparation method:	The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Reacting conditions:	6-7 h (HEK 293T cell), 15 min (HeLa cell), 5 days (B cell culture) [1]
Applications:	In HEK293T cells, ST2825 specifically inhibited homodimerization of MyD88

TIR domains with 40% inhibition of dimerization at 5  $\mu$ M and 80% inhibition at 10  $\mu$ M. This effect was specific for homodimerization of the TIR domains and did not affect homodimerization of the death domains. Moreover, ST2825 interfered with recruitment of IRAK1 and IRAK4 by MyD88, causing inhibition of IL-1-mediated activation of NF- $\kappa$ B transcriptional activity [1]. B cell proliferation and differentiation into plasma cells in response to CpG-induced activation of TLR9 were also suppressed by ST2825 (> 8  $\mu$ M). These results showed that ST2825 blocked IL-1R/TLR signaling by interfering with MyD88 homodimerization and suggested that it may have therapeutic potential in treatment of chronic inflammatory diseases [1]. TLR9-induced plasma cell (PC) generation was blocked by ST2825 in Peripheral blood mononuclear cells from SLE patients [3].

#### Animal experiment

Animal models:	C57BL female mice [1]
Dosage form:	Orally taken at 100 or 200 mg/kg/day [1]; injection at 25 mg/kg/day [2]
Applications:	IL-1 beta-induced production of IL-6 was dose-dependently inhibited by ST2825 (100 or 200mg/kg daily) in treated mice [1]. In a murine model of non-reperfused acute myocardial infarction, ST2825 (25 mg/kg) protected left ventricular from dilatation and hypertrophy. No measurable reduction in infarct size was found [2].
Preparation method:	ST2825 dissolved in 0.5% carboxymethylcellulose [1]
Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

In Vivo

## Product Citations

1. Pantaleão L, Rocha GHO, et al. "Connections of annexin A1 and translocator protein-18 kDa on tolllike receptor stimulated BV-2 cells." *Exp Cell Res.* 2018 Jun 15;367(2):282-290.PMID:29649428
2. Janda J, Burkett NB, et al. "Resatorvid-based Pharmacological Antagonism of Cutaneous TLR4Blocks UV-induced NF- $\kappa$ B and AP-1 Signaling in Keratinocytes and Mouse Skin." *Photochem Photobiol.* 2016 Nov;92(6):816-825.PMID:27859308
3. Wang SH, Wang SC, et al. "Induction of cyclooxygenase-2 gene by *Candida albicans* through EGFR, ERK, and p38 pathways in human urinaryepithelium." *Med Mycol.* 2016 Sep 23.PMID:27664170
4. Hu LT, et al. "Role of TREM-1 in response to *Aspergillus fumigatus* infection in corneal epithelial cells.." *Int Immunopharmacol.* 2014 Sep 18. pii:S1567-5769(14)00363-4.PMID:25242387

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## References

- [1]. Loiirro M, Capolunghi F, Fantò N et al. Pivotal advance: inhibition of MyD88 dimerization and recruitment of IRAK1 and IRAK4 by a novel peptidomimetic compound. *Journal of Leukocyte Biology* (2007), 82(4), 801-810.

[2]. Van Tassell BW, Seropian IM, Toldo S et al. Pharmacologic Inhibition of Myeloid Differentiation Factor 88 (MyD88) Prevents Left Ventricular Dilation and Hypertrophy After Experimental Acute Myocardial Infarction in the Mouse. *Journal of Cardiovascular Pharmacology* (2010), 55(4), 385-390.

[3]. Capolunghi F1, Rosado MM, Cascioli S et al., Pharmacological inhibition of TLR9 activation blocks autoantibody production in human B cells from SLE patients. *Rheumatology (Oxford)*. 2010 Dec;49(12):2281-9.

## Caution

**FOR RESEARCH PURPOSES ONLY.**

**NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

*Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.*

**APExBIO Technology**

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