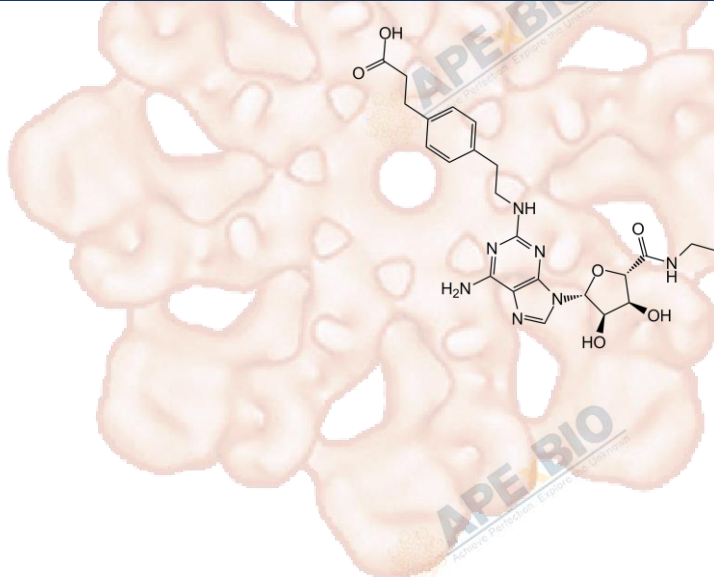


# Product Data Sheet

## CGS 21680

<b>Cat. No.:</b>	A3304
<b>CAS No.:</b>	120225-54-9
<b>Formula:</b>	C23H29N7O6
<b>M.Wt:</b>	499.52
<b>Synonyms:</b>	CGS-21680;CGS21680
<b>Target:</b>	GPCR/G protein
<b>Pathway:</b>	Adenosine Receptor
<b>Storage:</b>	Store at -20°C



## Solvent & Solubility

≥ 19.25 mg/mL in DMSO

In Vitro

	Solvent	Mass Concentration	Mass		
			1mg	5mg	10mg
Preparing Stock Solutions		1 mM	2.0019 mL	10.0096 mL	20.0192 mL
		5 mM	0.4004 mL	2.0019 mL	4.0038 mL
		10 mM	0.2002 mL	1.0010 mL	2.0019 mL

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

## Biological Activity

Shortsummary

Adenosine A2 receptor agonists, potent and selective

IC<sub>50</sub> & Target

27 nM (K<sub>i</sub>) (A<sub>2A</sub> adenosine receptor)

In Vitro

### Cell Viability Assay

Preparation method:

The solubility of this compound in DMSO is > 19.3 mg/mL. 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:

EC<sub>50</sub>: 110 nM

Applications:

In hippocampal slices, CGS 21680 appeared to be a weak agonist on pre- and

In Vivo		postsynaptic measures of electrophysiological activity (putative A1 receptor mediated events) and was ineffective at stimulating the formation of cAMP (a putative A2b mediated response). In striatal slices, CGS 21680 potentially stimulated the formation of cAMP with an EC50 of 110 nM but was ineffective at inhibiting electrically stimulated dopamine release. CGS21680 (10 nM) showed only small survival activity, but the activity was significantly enhanced by the addition of a phosphodiesterase inhibitor, IBMX. The survival activity of CGS21680 on cultured motoneurons was exerted by mixed effects of the adenylate cyclase-cAMP-PKA pathway and the transactivation of neurotrophin receptors.
	<b>Animal experiment</b>	
	Animal models:	Female Lewis rats
	Dosage form:	Intraperitoneal injection, 1 mg/kg, every two days
	Applications:	In female Lewis rats, CGS21680 (1 mg/kg/i.p.) intervention promoted the development of EAN. CGS21680 intervention promoted inflammatory cell infiltration and demyelination of sciatic nerves. CGS21680 intervention elevated the levels of P0 peptide-specific antibodies in serum. CGS21680 intervention suppressed Th1 and Th17 cytokines, and powerfully inhibited lymphocyte proliferation and IL-2 secretion. CGS21680 intervention reduced the proportions CD4+Foxp3+ Treg cells while increased CD4+CXCR5+ Tfh cells, B cells and dendritic cells in draining lymph nodes. CGS21680 intervention increased the expressions of MHC class II and CD86. CGS21680 (0.1 mg/kg, i.p.) transiently increased heart frequency. Following transient MCAo, CGS21680 at both doses protected from neurological deficit from the first day up to 7 days thereafter. CGS21680 reduced microgliosis, astrogliosis and improved myelin organization in the striatum and cytoarchitecture of the ischemic cortex and striatum. Two days after transient MCAo, CGS21680 reduced the number of infiltrated granulocytes into the ischemic tissue.
	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.

## Product Citations

See more customer validations on [www.apexbt.com](http://www.apexbt.com).

## References

- [1]. Lupica C R, Cass W A, Zahniser N R, et al. Effects of the selective adenosine A2 receptor agonist CGS 21680 on in vitro electrophysiology, cAMP formation and dopamine release in rat hippocampus and striatum[J]. Journal of Pharmacology and Experimental Therapeutics, 1990, 252(3): 1134-1141.
- [2]. Komaki S, Ishikawa K, Arakawa Y. Trk and cAMP-dependent survival activity of adenosine A 2A agonist CGS21680 on rat motoneurons in culture[J]. Neuroscience letters, 2012, 522(1): 21-24.
- [3]. Zhang M, Li X L, Li H, et al. Activation of the adenosine A 2A receptor exacerbates experimental autoimmune neuritis in Lewis rats in association with enhanced humoral immunity[J]. Journal of neuroimmunology, 2016, 293: 129-136.
- [4]. Melani A, Corti F, Cellai L, et al. Low doses of the selective adenosine A 2A receptor agonist CGS21680 are protective in a rat model of transient cerebral ischemia[J]. Brain research, 2014, 1551: 59-72.

## 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**

**[www.apexbt.com](http://www.apexbt.com)**

7505 Fannin street, Suite 410, Houston, TX 77054.

Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: [info@apexbt.com](mailto:info@apexbt.com)

