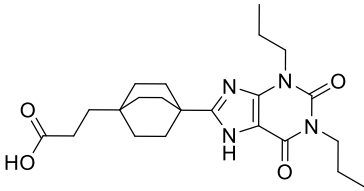


Product data sheet



MedKoo Cat#: 319815 Name: Tonapofylline CAS#: 340021-17-2 Chemical Formula: C ₂₂ H ₃₂ N ₄ O ₄ Exact Mass: 416.2424 Molecular Weight: 416.522		
Product supplied as:		Powder
Purity (by HPLC):		≥ 98%
Shipping conditions		Ambient temperature
Storage conditions:		Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

Tonapofylline, also known as BG9928, is a selective adenosine-1 receptor antagonist under development for the treatment of heart failure. Tonapofylline promotes natriuresis and diuresis, and may preserve glomerular filtration rate in patients with heart failure. Additionally, pilot data indicate that tonapofylline may be renoprotective in the setting of concomitant treatment with a loop-diuretic. Tonapofylline has natriuretic effects and is able to maintain renal function, which can be beneficial to patients with congestive heart failure.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	100.0	240.08

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.40 mL	12.00 mL	24.01 mL
5 mM	0.48 mL	2.40 mL	4.80 mL
10 mM	0.24 mL	1.20 mL	2.40 mL
50 mM	0.05 mL	0.24 mL	0.48 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

N/A

In vivo study

1. Tofovic SP, Salah EM, Smits GJ, Whalley ET, Ticho B, Deykin A, Jackson EK. Dual A1/A2B Receptor Blockade Improves Cardiac and Renal Outcomes in a Rat Model of Heart Failure with Preserved Ejection Fraction. *J Pharmacol Exp Ther.* 2016 Feb;356(2):333-40. doi: 10.1124/jpet.115.228841. Epub 2015 Nov 19. PMID: 26585572; PMCID: PMC4727158.
2. Gill A, Wortham K, Costa D, Davis W, Ticho B, Whalley E. Protective effect of tonapofylline (BG9928), an adenosine A1 receptor antagonist, against cisplatin-induced acute kidney injury in rats. *Am J Nephrol.* 2009;30(6):521-6. doi: 10.1159/000248762. Epub 2009 Oct 13. PMID: 19828940.

7. Bioactivity

Biological target:

Tonapofylline (BG 9928) is an orally active and selective adenosine A1 receptor antagonist with a K_i of 7.4 nM for human adenosine A1 receptor (hA1).

Product data sheet



In vitro activity

N/A

In vivo activity

An important finding of the present study is that BG9928 exerted significant long-term antidiabetic actions in rats with metabolic syndrome. This conclusion is supported by the observations that chronic BG9928 decreased glucosuria, polydipsia, polyuria, and fasting plasma glucose, and improved the oral glucose tolerance test. Compared with the control group, BG9928 also caused a significant gain in body weight, an effect that was unrelated to food or water intake. This too is consistent with an antidiabetic effect of BG9928, because decreased spillage of glucose into the urine would cause weight gain since the calories in glucose would be conserved.

Reference: J Pharmacol Exp Ther. 2016 Feb; 356(2): 333–340. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4727158/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.