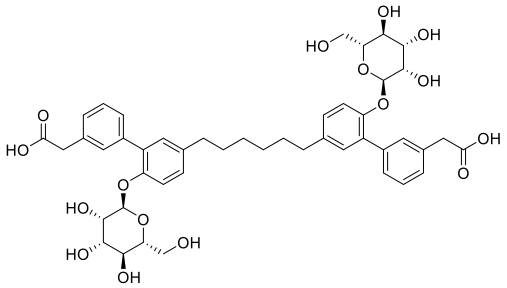
Product data sheet

MedKoo Cat#: 329446 Name: Bimosiamose CAS#: 187269-40-5 Chemical Formula: $C_{46}H_{54}O_{16}$ Exact Mass: 862.3412 Molecular Weight: 862.922	
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:

Bimosiamose, also known as TBC-1269, is a L/E/P-selectin antagonist potentially for the treatment of asthma, chronic obstructive pulmonary. Bimosiamose attenuates airway inflammation in COPD. Bimosiamose, an inhaled small-molecule pan-selectin antagonist, attenuates late asthmatic reactions following allergen challenge in mild asthmatics.

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	115.89
0.1 M NaOH	25.0	28.97

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	1.16 mL	5.79 mL	11.59 mL
5 mM	0.23 mL	1.16 mL	2.32 mL
10 mM	0.12 mL	0.58 mL	1.16 mL
50 mM	0.02 mL	0.12 mL	0.23 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

1. Michail S, Mezoff E, Abernathy F. Role of selectins in the intestinal epithelial migration of eosinophils. Pediatr Res. 2005 Oct;58(4):644-7. doi: 10.1203/01.PDR.0000180572.65751.F4. PMID: 16189187.

In vivo study

1. Jayle C, Milinkevitch S, Favreau F, Doucet C, Richer JP, Deretz S, Mauco G, Rabb H, Hauet T. Protective role of selectin ligand inhibition in a large animal model of kidney ischemia-reperfusion injury. Kidney Int. 2006 May;69(10):1749-55. doi: 10.1038/sj.ki.5000335. PMID: 16625150.
2. Armstrong PC, Hu H, Rivera J, Rigby S, Chen YC, Howden BP, Gardiner E, Peter K. Staphylococcal superantigen-like protein 5 induces thrombotic and bleeding complications in vivo: inhibition by an anti-SSL5 antibody and the glycan Bimosiamose. J Thromb Haemost. 2012 Dec;10(12):2607-9. doi: 10.1111/jth.12022. PMID: 23039170.

7. Bioactivity

Biological target:

Bimosiamose (TBC-1269) is a nonoligosaccharide pan-selectin antagonist with IC50s of 88 μM, 20 μM, and 86 μM for E-selectin, P-selectin, and L-selectin, respectively.

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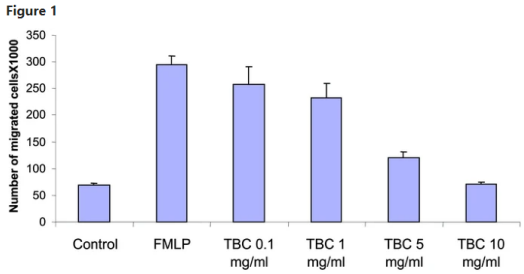
In vitro activity

TBC1269, which acts as a pan-selectin antagonist, resulted in the inhibition of the intestinal epithelial migration of HL-60–differentiated eosinophils. The effect was dose dependent, and complete inhibition of migration was seen at 10 mg/mL concentration (Fig. 1). Therefore, the migration of HL-60–differentiated eosinophils across intestinal epithelial migration seems to be dependent on selectins and/or their ligands. The individual selectins/ligands then were investigated as potential players in the process of migration as described below.



Reference: Pediatr Res. 2005 Oct;58(4):644-7. https://www.nature.com/articles/pr2005717

In vivo activity

Consistent with previous studies in the pig model, the major inflammatory cell population detected by immunohistochemical long term studies after ischemia was CD4+ T lymphocytes. No infiltrating cells were detected in Cont and Unif (data not shown). In contrast, the number of CD4+ increased between weeks 1 and 2 after reperfusion in WI 45 and particularly WI 60 (Figure 4a). After week 2, CD4+ cells plateaued up to 16 weeks following reperfusion in groups WI 45 and WI 60. In WI 60 and WI 45 groups, monocyte/macrophage increased between weeks 1 and 2 and slightly decreased between weeks 2 and 4, then plateaued between weeks 4 and 16 (Figure 4b). Monocyte/macrophage number was significantly increased in WI 60 group when compared to WI 45 group. In WI kidneys treated with TBC-1269, CD4-positive cell number was significantly reduced. Monocyte/macrophage number was also different in WI TBC 45 and WI TBC 60 when compared to WI 45 and WI 60, respectively (Figure 5a). TBC-1269 was also efficient in cold ischemia model in reducing inflammatory cells (Figure 5b). TBC-1269 reduced CD4-positive cells and macrophages during the first week, and this beneficial effect remained detectable between weeks 4 and 16.

Reference: Kidney Int. 2006 May;69(10):1749-55. https://www.kidney-international.org/article/S0085-2538(15)51353-7/fulltext

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.