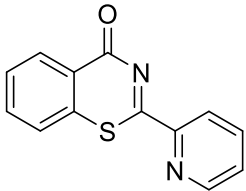


# Product data sheet



MedKoo Cat#: 564294 Name: BTZO-1 CAS#: 99420-15-2 Chemical Formula: C <sub>13</sub> H <sub>8</sub> N <sub>2</sub> OS Exact Mass: 240.0357 Molecular Weight: 240.28	
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:

BTZO-1 is an activator of the glutathione S-transferase Ya subunit (GST Ya) gene ARE by interacting with MIF.

## 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	7.71	32.09
Ethanol	4.0	16.65

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	4.16 mL	20.81 mL	41.62 mL
5 mM	0.83 mL	4.16 mL	8.32 mL
10 mM	0.42 mL	2.08 mL	4.16 mL
50 mM	0.08 mL	0.42 mL	0.83 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. Kimura H, Sato Y, Tajima Y, Suzuki H, Yukitake H, Imaeda T, Kajino M, Oki H, Takizawa M, Tanida S. BTZO-1, a cardioprotective agent, reveals that macrophage migration inhibitory factor regulates ARE-mediated gene expression. *Chem Biol.* 2010 Dec 22;17(12):1282-94. doi: 10.1016/j.chembiol.2010.10.011. PMID: 21168764.

### In vivo study

1. Aboelenain M, El Domany WB, Eldoumani H, Khalil WA. Antioxidant response element activator, BTZO-1, improves the developmental competence of bovine oocytes. *Reprod Domest Anim.* 2020 Aug;55(8):1021-1024. doi: 10.1111/rda.13733. Epub 2020 Jun 12. PMID: 32473610.

## 7. Bioactivity

### Biological target:

BTZO-1 binds to Macrophage migration inhibitory factor (MIF) with a K<sub>d</sub> value of 68.6 nM, and its binding requires the N-terminal Pro1.

### In vitro activity

BTZO-1 binds to MIF with a K<sub>d</sub> of 68.6 nM, and its binding required the intact N-terminal Pro1. MIF, in the presence of BTZO-1, activated the glutathione S-transferase Ya subunit (GST Ya) gene ARE, whereas reduction of cellular MIF protein levels by siRNA

# Product data sheet



suppressed BTZO-1-induced GST Ya expression. These results suggest that BTZO-1 activates the GST Ya gene ARE by interacting with MIF.

Reference: Chem Biol. 2010 Dec 22;17(12):1282-94. <https://pubmed.ncbi.nlm.nih.gov/21168764/>

## In vivo activity

---

Addition of BTZO-1 during IVM of bovine oocytes improved their developmental competence in the term of improvement of blastocyst rates.

Reference: Reprod Domest Anim. 2020 Aug;55(8):1021-1024. <https://pubmed.ncbi.nlm.nih.gov/32473610/>

*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.*