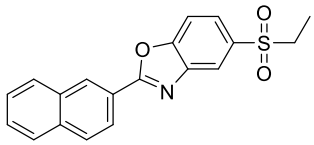
Product data sheet

MedKoo Cat#: 206444 Name: Ezutromid CAS#: 945531-77-1 Chemical Formula: $C_{19}H_{15}NO_3S$ Exact Mass: 337.07726 Molecular Weight: 337.39	
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:
Ezutromid, also known as BMN-195 and SMTC-1100, is a first orally bioavailable utrophin's translation modulator. Duchenne muscular dystrophy (DMD) is a lethal, progressive muscle wasting disease caused by a loss of sarcolemmal bound dystrophin, which results in the death of the muscle fibers leading to the gradual depletion of skeletal muscle.

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	6.5	19.27
DMSO:PBS (pH 7.2) (1:2)	0.3	0.89
DMF	2.0	5.93

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.96 mL	14.82 mL	29.64 mL
5 mM	0.59 mL	2.96 mL	5.93 mL
10 mM	0.30 mL	1.48 mL	2.96 mL
50 mM	0.06 mL	0.30 mL	0.59 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. Tinsley JM, Fairclough RJ, Storer R, Wilkes FJ, Potter AC, Squire SE, Powell DS, Cozzoli A, Capogrosso RF, Lambert A, Wilson FX, Wren SP, De Luca A, Davies KE. Daily treatment with SMTC1100, a novel small molecule utrophin upregulator, dramatically reduces the dystrophic symptoms in the mdx mouse. PLoS One. 2011 May 6;6(5):e19189. doi: 10.1371/journal.pone.0019189. PMID: 21573153; PMCID: PMC3089598.

In vivo study

1. Tinsley JM, Fairclough RJ, Storer R, Wilkes FJ, Potter AC, Squire SE, Powell DS, Cozzoli A, Capogrosso RF, Lambert A, Wilson FX, Wren SP, De Luca A, Davies KE. Daily treatment with SMTC1100, a novel small molecule utrophin upregulator, dramatically reduces the dystrophic symptoms in the mdx mouse. PLoS One. 2011 May 6;6(5):e19189. doi: 10.1371/journal.pone.0019189. PMID: 21573153; PMCID: PMC3089598.

7. Bioactivity
Biological target:

Product data sheet

Ezutromid (SMT C1100) is a first-in-class, orally active benzoxazole utrophin modulator with an EC50 of 0.91 μM.

In vitro activity

SMT C1100 shows a maximal increase of four to five-fold compared to vehicle with an EC50 of 0.4 μM (Fig. 1A). In vitro dosing of human myoblasts with SMT C1100 leads to a 25% increase in utrophin mRNA (Fig. 1B) when compared to vehicle-only dosing after three days of treatment. Treatment of human DMD cells with SMT C1100 lead to a 2-fold increase in utrophin protein levels at an optimal concentration of 0.3 μM after 3 days of treatment (Fig. 1C).

Reference: PLoS One. 2011 May 6;6(5):e19189. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3089598/

In vivo activity

To confirm the in vivo activity of SMT C1100, the dystrophin-deficient mdx mouse was used to monitor any changes in the dystrophic phenotype after chronic dosing for several weeks. Fig. 3A demonstrates a two-fold increase in utrophin mRNA as determined by quantitative PCR from mdx mice dosed daily with SMT C1100 for 28 days compared to vehicle only. This data confirms SMT C1100 drives increased utrophin transcriptional expression in vivo and, more importantly, demonstrates increased utrophin staining at the required site of action - the sarcolemma - and independently from muscle work load.

Reference: PLoS One. 2011 May 6;6(5):e19189. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3089598/

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.