# Product data sheet

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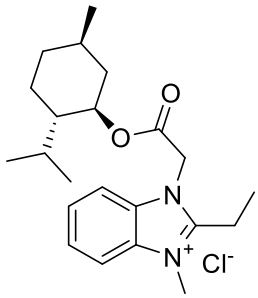
|---|---|
| MedKoo Cat#: 207091<br>Name: Gboxin chloride<br>CAS#: 2101315-36-8<br>Chemical Formula: $C_{22}H_{33}ClN_2O_2$<br>Molecular Weight: 392.968 |  |
| Product supplied as: | Powder |
| Purity (by HPLC): | ≥ 98% |
| Shipping conditions | Ambient temperature |
| Storage conditions: | Powder: -20°C 3 years; 4°C 2 years. |
| | In solvent: -80°C 3 months; -20°C 2 weeks. |

**1. Product description:**

Gboxin chloride is an oxidative phosphorylation inhibitor that targets glioblastoma but not embryonic fibroblasts or neonatal astrocytes. Gboxin rapidly and irreversibly compromises oxygen consumption in glioblastoma cells. Gboxin relies on its positive charge to associate with mitochondrial oxidative phosphorylation complexes in a manner that is dependent on the proton gradient of the inner mitochondrial membrane, and it inhibits the activity of F0F1 ATP synthase.

**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 |
|---|---|---|
| DMF | 10.0 | 25.45 |
| DMSO | 27.83 | 70.83 |
| Ethanol | 49.5 | 125.96 |
| PBS (pH 7.2) | 10.0 | 25.45 |
| Water | 6.0 | 15.27 |

**4. Stock solution preparation table:**

| Concentration / Solvent Volume / Mass | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 2.54 mL | 12.72 mL | 25.45 mL |
| 5 mM | 0.51 mL | 2.54 mL | 5.09 mL |
| 10 mM | 0.25 mL | 1.27 mL | 2.54 mL |
| 50 mM | 0.05 mL | 0.25 mL | 0.51 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. Shi Y, Lim SK, Liang Q, Iyer SV, Wang HY, Wang Z, Xie X, Sun D, Chen YJ, Tabar V, Gutin P, Williams N, De Brabander JK, Parada LF. Gboxin is an oxidative phosphorylation inhibitor that targets glioblastoma. Nature. 2019 Mar;567(7748):341-346. doi: 10.1038/s41586-019-0993-x. Epub 2019 Mar 6. PMID: 30842654; PMCID: PMC6655586.

In vivo study

TBD

**7. Bioactivity**

Biological target:

Gboxin is an oxidative phosphorylation (OXPHOS) inhibitor that targets glioblastoma. Gboxin inhibits the activity of F0F1 ATP synthase.

# Product data sheet

In vitro activity

Administration of a metabolically stable Gboxin analogue inhibits glioblastoma allografts and patient-derived xenografts. Gboxin toxicity extends to established human cancer cell lines of diverse organ origin, and shows that the increased proton gradient and pH in cancer cell mitochondria is a mode of action that can be targeted in the development of antitumour reagents.

Reference: Nature. 2019 Mar;567(7748):341-346. https://pubmed.ncbi.nlm.nih.gov/30842654/

In vivo activity

TBD

*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.*