

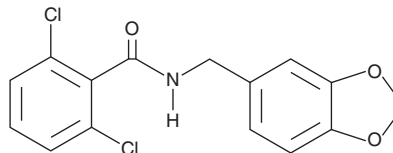
# PRODUCT INFORMATION



## Alda-1

Item No. 21555

**CAS Registry No.:** 349438-38-6  
**Formal Name:** N-(1,3-benzodioxol-5-ylmethyl)-  
2,6-dichloro-benzamide  
**MF:** C<sub>15</sub>H<sub>11</sub>Cl<sub>2</sub>NO<sub>3</sub>  
**FW:** 324.2  
**Purity:** ≥98%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Alda-1 is supplied as a crystalline solid. A stock solution may be made by dissolving the Alda-1 in the solvent of choice, which should be purged with an inert gas. Alda-1 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of Alda-1 in ethanol is approximately 10 mg/ml and approximately 30 mg/ml in DMSO and DMF.

### Description

Alda-1 is a selective aldehyde dehydrogenase 2 (ALDH2) agonist.<sup>1</sup> This cell-permeable benzamide selectively enhances the activity of WT ALDH2\*1 and the East Asian E487K mutant ALDH2\*2 forms of mitochondrial aldehyde dehydrogenase 2 (2.1-, 2.2-, and 11-fold increase in V<sub>max</sub> of 20 μg homozygous WT, heterozygous WT/mutant, and homozygous mutant tetramer, respectively, at 100 μM), while exhibiting no effect toward alcohol dehydrogenase 1, cytosolic ALDH1, or mitochondrial ALDH5. Alda-1 (20 μM) protects against *ex vivo* ischemic tissue damage to excised rat hearts (25% and 24% reduction in infarct size and creatine phosphokinase (CPK) release, respectively).<sup>2</sup> Alda-1 also, at a dose of 8.5 mg/kg, reduces infarct size by 60% in anesthetized live rats.

### References

1. Perez-Miller, S., Younus, H., Vanam, R., *et al.* Alda-1 is an agonist and chemical chaperone for the common human aldehyde dehydrogenase 2 variant. *Nat. Struct. Mol. Biol.* **17**(2), 159-164 (2010).
2. Chen, C.-H., Budas, G.R., Churchill, E.N., *et al.* An activator of mutant and wildtype aldehyde dehydrogenase reduces ischemic damage to the heart. *Science* **321**(5895), 1493-1495 (2008).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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