

# PRODUCT INFORMATION



## Dynasore

Item No. 14062

**CAS Registry No.:** 304448-55-3  
**Formal Name:** 3-hydroxy-2-[(3,4-dihydroxyphenyl)methylene]hydrazide-2-naphthalenecarboxylic acid

**MF:** C<sub>18</sub>H<sub>14</sub>N<sub>2</sub>O<sub>4</sub>

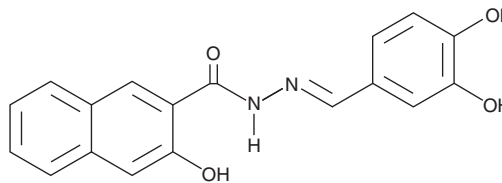
**FW:** 322.3

**Purity:** ≥95%

**Supplied as:** A crystalline solid

**Storage:** -20°C

**Stability:** ≥2 years



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

### Laboratory Procedures

Dynasore is supplied as a crystalline solid. A stock solution may be made by dissolving the dynasore in the solvent of choice. Dynasore is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of dynasore in these solvents is approximately 12.5 and 25 mg/ml, respectively.

Dynasore is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, dynasore should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Dynasore has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Dynasore is a cell-permeable, reversible inhibitor of dynamin 1, dynamin 2, and mitochondrial dynamin, Drp1 GTPase, activity (IC<sub>50</sub> = 15 μM).<sup>1,2</sup> Through this action, dynasore inhibits clathrin-dependent vesicle formation and endocytosis, which is necessary for internalization of certain parasites and viruses, as well as particles and receptor ligands.<sup>3-5</sup> In some cases, dynasore can also augment the release of neurotransmitters and secreted cytokines.<sup>6,7</sup>

### References

1. Macia, E., Ehrlich, M., Massol, R., *et al.* Dynasore, a cell-permeable inhibitor of dynamin. *Dev. Cell* **10**(6), 839-850 (2006).
2. Kirchhausen, T., Macia, E., and Pelish, H.E. Use of dynasore, the small molecule inhibitor of dynamin, in the regulation of endocytosis. *Methods Enzymol.* **438**, 77-93 (2008).
3. Chen, C.-L., Hou, W.-H., Liu, I.-H., *et al.* Inhibitors of clathrin-dependent endocytosis enhance TGFβ signaling and responses. *J. Cell Sci.* **122**, 1863-1871 (2009).
4. Barrias, E.S., Reignault, L.C., de Souza, W., *et al.* Dynasore, a dynamin inhibitor, inhibits *Trypanosoma cruzi* entry into peritoneal macrophages. *PLoS One* **5**(1), (2010).
5. de la Vega, M., Marin, M., Kondo, N., *et al.* Inhibition of HIV-1 endocytosis allows lipid mixing at the plasma membrane, but not complete fusion. *Retrovirology* **8**(99), (2011).
6. Douthitt, H.L., Luo, F., McCann, S.D., *et al.* Dynasore, an inhibitor of dynamin, increases the probability of transmitter release. *Neuroscience* **172**, 187-195 (2011).
7. Seil, M., El Oualiti, M., and Dehaye, J.-P. Secretion of IL-1β triggered by dynasore in murine peritoneal macrophages. *Innate Immun.* **18**(2), 241-249 (2012).

#### 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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