

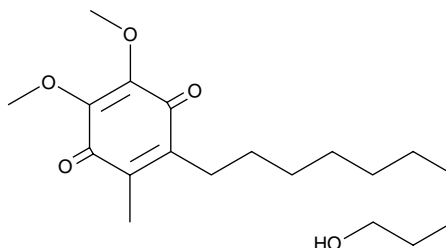
# Product Information



## Idebenone

Item No. 15475

<b>CAS Registry No.:</b>	58186-27-9
<b>Formal Name:</b>	2-(10-hydroxydecyl)-5,6-dimethoxy-3-methyl-2,5-cyclohexadiene-1,4-dione
<b>Synonyms:</b>	CV-2619, Mnesis
<b>MF:</b>	C <sub>19</sub> H <sub>30</sub> O <sub>5</sub>
<b>FW:</b>	338.4
<b>Purity:</b>	≥98%
<b>Stability:</b>	≥2 years at -20°C
<b>Supplied as:</b>	A crystalline solid
<b>UV/Vis.:</b>	λ <sub>max</sub> : 279, 407 nm



### Laboratory Procedures

For long term storage, we suggest that idebenone be stored as supplied at -20°C. It should be stable for at least two years.

Idebenone is supplied as a crystalline solid. A stock solution may be made by dissolving the idebenone in the solvent of choice. Idebenone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of idebenone in ethanol and DMF is approximately 30 mg/ml and approximately 25 mg/ml in DMSO.

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

Idebenone is a benzoquinone analog of coenzyme Q<sub>10</sub> (Item No. 11506), a natural quinone that serves as a cofactor in the electron transport chain in mitochondria.<sup>1,2</sup> Like coenzyme Q<sub>10</sub>, idebenone is a potent lipid antioxidant that prevents the generation of free radicals.<sup>1,3</sup> In particular, idebenone targets mitochondria, preserves mitochondrial function, and confers cytoprotection.<sup>4-6</sup> In this way, idebenone has neuroprotective effects and has applications in Friedreich ataxia.<sup>7,8</sup>

### References

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5. Erb, M., Hoffman-Enger, B., Deppe, H., *et al.* Features of idebenone and related short-chain quinones that rescue ATP levels under conditions of impaired mitochondrial complex I. *PLoS One* **7**(4), e36153 (2012).
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8. Tsou, A.Y., Friendman, L.A., Wilson, R.B., *et al.* Pharmacotherapy for Friedreich ataxia. *CNS Drugs* **23**(3), 213-223 (2009).

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### Cayman Chemical

#### Mailing address

1180 E. Ellsworth Road  
Ann Arbor, MI  
48108 USA

#### Phone

(800) 364-9897  
(734) 971-3335

#### Fax

(734) 971-3640

#### E-Mail

[custserv@caymanchem.com](mailto:custserv@caymanchem.com)

#### Web

[www.caymanchem.com](http://www.caymanchem.com)