



## Product Information

### n-Dodecyl $\beta$ -D-maltoside

Product Number **D 4641**

Storage Temperature -0 °C

#### Product Description

Molecular Formula: C<sub>24</sub>H<sub>46</sub>O<sub>11</sub>

Molecular Weight: 510.6

CAS Number: 69227-93-6

Rotation: +47.7° (10 mg/ml MeOH, 25 °C)<sup>1</sup>

CMC: 0.16 mM<sup>2</sup>

Aggregation Number: 98

The product is a crystallized, water soluble, nonionic detergent similar to n-octyl- $\beta$ -D-glucoside. In studies on rhodopsin and opsin in different nonionic and zwitterionic detergents, this detergent was superior in solubility and maintaining thermal stability of rhodopsin and opsin.<sup>3</sup>

The product has found application in membrane-protein solubilization studies for two-dimensional gel electrophoresis where it improved resolution of hepatic membrane proteins,<sup>4</sup> aided in the separation of chloroplast thylakoid membrane proteins,<sup>5</sup> and was most efficient in solubilizing membrane proteins of human red blood cell ghosts and *Arabidopsis thaliana* leaf membrane proteins.<sup>6</sup>

In an investigation of the oligomerization process as well as the nature of the long wavelength chlorophylls, this product was used in the extraction of Photosystem I (PS I) monomers from *S. platensis*. After further purification, these monomers were used to assemble the trimeric PS I.<sup>7</sup> It was also used in the extraction of two hyaluronan synthases from *Streptococcus pyogenes* and *Streptococcus equisimilis*.<sup>8</sup>

It has been used as a solubilizing detergent for yeast cytochrome c<sup>9</sup> and the ammonium sulfate precipitate of chloroplast FoF1-ATP synthase.<sup>10</sup>

#### Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

#### Preparation Instructions

This product is soluble in water (50 mg/ml), yielding a clear to very slightly hazy, colorless solution. Sonication may be required for complete solubilization.

#### References

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7. Kruij, J., et al., In vitro oligomerization of a membrane protein complex. Liposome-based reconstitution of trimeric photosystem I from isolated monomers. J. Biol. Chem., **274**, 18181-18188 (1999).
8. Tlapak-Simmons, V. L., et al., Purification and lipid dependence of the recombinant hyaluronan synthases from *Streptococcus pyogenes* and *Streptococcus equisimilis*. J. Biol. Chem., **274**, 4239-4245 (1999).

9. Taanman, J. W., and Capaldi, R. A., Purification of yeast cytochrome c oxidase with a subunit composition resembling the mammalian enzyme. *J. Biol. Chem.*, **267**, 22481-22485 (1992).
10. Seelert, H., et al., Dye-ligand chromatographic purification of intact multisubunit membrane protein complexes: application to the chloroplast H<sup>+</sup> FoF<sub>1</sub>-ATP synthase. *Biochem. J.*, **346**, 41-44 (2000).

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