

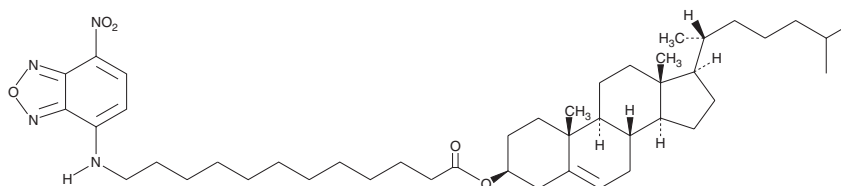
# PRODUCT INFORMATION



## 3-dodecanoyl-NBD Cholesterol

Item No. 13220

**CAS Registry No.:** 1246303-05-8  
**Formal Name:** 12-[(7-nitro-2,1,3-benzoxadiazol-4-yl)amino]-(3S,10R,13R)-3-methoxy-10,13-dimethyl-17-((R)-6-methylheptan-2-yl)-tetradecahydro-1H-cyclopenta[ $\alpha$ ]phenanthrene  
**Synonym:** 3-C<sub>12</sub>-NBD Cholesterol  
**MF:** C<sub>45</sub>H<sub>70</sub>N<sub>4</sub>O<sub>5</sub>  
**FW:** 747.1  
**Purity:** ≥98%  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 229, 335, 465 nm  
**Supplied as:** A solution in ethanol  
**Storage:** -20°C  
**Stability:** ≥1 year



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

### Laboratory Procedures

3-dodecanoyl-NBD cholesterol is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of 3-dodecanoyl-NBD cholesterol is approximately 1 mg/ml in DMF and approximately 0.25 mg/ml in DMSO.

### Description

C-12 NBD cholesterol is a fluorescently tagged cholesterol with the hydrophilic NBD fluorophore attached to the hydrophilic end of cholesterol, separated by a 12-carbon spacer. This design allows the cholesterol to properly orient in membrane bilayers while the fluorescent tag is presented outside of the bilayer. This should model the behavior of cholesterol in membranes better than the previously used 25-NBD cholesterol, which positions NBD directly on the 25<sup>th</sup> carbon of cholesterol at the hydrophobic terminus. NBD has excitation/emission maxima of 465/535 nm, respectively. Fluorescently tagged lipids have been used to study their interactions with proteins, their utilization by cells and liposomes, and for the development of assays for lipid metabolism.<sup>1-5</sup>

### References

1. Kumagai, K., Yasuda, S., Okemoto, K., *et al.* CERT mediates intermembrane transfer of various molecular species of ceramides. *J. Biol. Chem.* **280(8)**, 6488-6495 (2005).
2. Luo, M., Jones, S.M., Peters-Golden, M., *et al.* Nuclear localization of 5-lipoxygenase as a determinant of leukotriene B<sub>4</sub> synthetic capacity. *Proc. Natl. Acad. Sci. USA* **100(21)**, 12165-12170 (2003).
3. Moreno, M.J., Estronca, L.M.B.B., and Vaz, W.L.C. Translocation of phospholipids and dithionite permeability in liquid-ordered and liquid-disordered membranes. *Biophys. J.* **91(3)**, 873-881 (2006).
4. Loidl, A., Claus, R., Deigner, H.P., *et al.* High-precision fluorescence assay for sphingomyelinase activity of isolated enzymes and cell lysates. *J. Lipid Res.* **43(5)**, 815-823 (2002).
5. Tani, M., Okino, N., Mitsutake, S., *et al.* Specific and sensitive assay for alkaline and neutral ceramidases involving C12-NBD-ceramide. *J. Biochem.* **125(4)**, 746-749 (1999).

#### 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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