

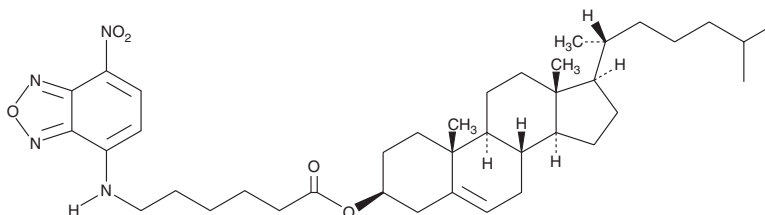
# PRODUCT INFORMATION



## 3-hexanoyl-NBD Cholesterol

Item No. 13221

|                          |   |
|--------------------------|---|
| <b>CAS Registry No.:</b> | 201731-19-3   |
| <b>Formal Name:</b>      | 6-[(7-nitro-2,1,3-benzoxadiazol-4-yl)amino]-cholest-5-en-3-ol |
| <b>Synonym:</b>          | 3-C <sub>6</sub> -NBD Cholesterol                             |
| <b>MF:</b>               | C <sub>39</sub> H <sub>58</sub> N <sub>4</sub> O <sub>5</sub> |
| <b>FW:</b>               | 662.9   |
| <b>Purity:</b>           | ≥98%  |
| <b>UV/Vis.:</b>          | λ <sub>max</sub> : 229, 332, 465 nm                           |
| <b>Ex./Em. Max:</b>      | 473/536 nm  |
| <b>Supplied as:</b>      | A crystalline solid   |
| <b>Storage:</b>          | -20°C   |
| <b>Stability:</b>        | ≥1 year   |



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

### Laboratory Procedures

3-hexanoyl-NBD cholesterol is supplied as a crystalline solid. A stock solution may be made by dissolving the 3-hexanoyl-NBD cholesterol in the solvent of choice. 3-hexanoyl-NBD cholesterol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of 3-hexanoyl-NBD cholesterol is approximately 1 mg/ml in ethanol and DMF and approximately 0.25 mg/ml in DMSO.

### Description

3-hexanoyl-NBD cholesterol is a fluorescently-tagged cholesterol derivative with the hydrophilic NBD fluorophore attached to carbon 3, at the hydrophilic end of cholesterol, separated by a 6-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. 3-hexanoyl-NBD cholesterol has excitation/emission maxima of 473/536 nm, respectively, in vesicles comprised of dioleoylphosphatidylcholine (DOPC), however, the maxima will vary depending on membrane composition.<sup>1</sup> 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>2-6</sup>

### References

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2. 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).
3. 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. Nat. Acad. Sci. USA* **100**(21), 12165-12170 (2003).
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5. 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).
6. Tani, M., Okino, N., Mitsutake, S., et al. Specific and sensitive assay for alkaline and neutral ceramidases involving C<sub>12</sub>-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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