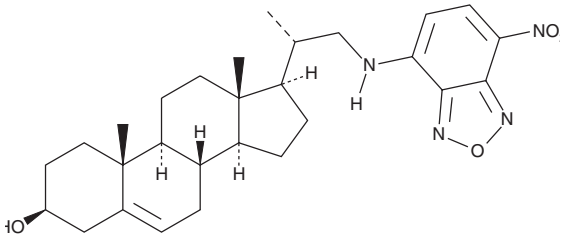
PRODUCT INFORMATION

22-NBD Cholesterol

Item No. 30136

CAS Registry No.:	78949-95-8
Formal Name:	20S-methyl-21-[(7-nitro-2,1,3β-benzoxadiazol-4-yl)amino]-pregn-5-en-3-ol
MF:	$C_{28}H_{38}N_4O_4$
FW:	494.6
Purity:	≥90%
Ex./Em. Max:	472/540 nm
Supplied as:	A 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

22-NBD cholesterol is supplied as a a solid. A stock solution may be made by dissolving the 22-NBD cholesterol in the solvent of choice, which should be purged with an inert gas. 22-NBD cholesterol is soluble in methanol.

Description

22-NBD cholesterol is a fluorescent analog of cholesterol (Item No. 9003100) that contains a fluorescent nitrobenzoxadiazole (NBD) group.[1] It has been used in a variety of *in vitro* and *in vivo* applications, including analysis of steroid uptake and esterification, intracellular localization and targeting, and metabolism in mammalian and bacterial cells, and intestinal absorption of cholesterol in hamsters.[2-4] 22-NBD cholesterol displays excitation/emission maxima of 472/540 nm, respectively, when incorporated into 1,2-dimyristoyl-*sn*-glycero-3-PC (DMPC; Item No. 15097) vesicles.[5] The emission maximum of 22-NBD cholesterol is solvent-dependent and increases as solvent polarity increases.[1]

References

1. Craig, I.F., Via, D.P., Mantulin, W.W., *et al.* Low density lipoproteins reconstituted with steroids containing the nitrobenzoxadiazole fluorophore. *J. Lipid Res.* **22(4)**, 687-696 (1981).
2. Faletrov, Y., Brzostek, A., Plocinska, R., *et al.* Uptake and metabolism of fluorescent steroids by mycobacterial cells. *Steroids* **117**, 29-37 (2017).
3. Frolov, A., Petrescu, A., Atshaves, B.P., *et al.* High density lipoprotein-mediated cholesterol uptake and targeting to lipid droplets in intact L-cell fibroblasts. A single- and multiphoton fluorescence approach. *J. Biol. Chem.* **275(17)**, 12769-12780 (2000).
4. Sparrow, C.P., Patel, S., Baffic, J., *et al.* A fluorescent cholesterol analog traces cholesterol absorption in hamsters and is esterified in vivo and in vitro. *J. Lipid Res.* **40(10)**, 1747-1757 (1999).
5. Ostašov, P., Sýkora, J., Brejchová, J., *et al.* FLIM studies of 22- and 25-NBD-cholesterol in living HEK293 cells: Plasma membrane change induced by cholesterol depletion. *Chem. Phys. Lipids* **167-168**, 62-69 (2013).

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