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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic)



PRODUCT INFORMATION



C12 NBD dihydro Ceramide (d18:0/12:0)

Item No. 10008097

CAS Registry No.: 474943-05-0

Formal Name: N-[(1S,2R)-2-hydroxy-1-(hydroxymethyl)heptadecyl]-12-[[7-nitro-2,1,3-benzoxadiazol-4-yl]amino]-dodecanamide

Synonyms: NBD Cer(d18:0/12:0), NBD Ceramide (d18:0/12:0)

MF: $C_{36}H_{63}N_5O_6$

FW: 661.9

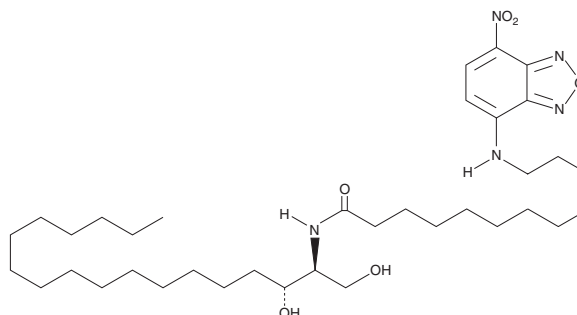
Purity: $\geq 98\%$

UV/Vis.: λ_{max} : 229, 333, 465 nm

Supplied as: A solid

Storage: -20°C

Stability: ≥ 4 years



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

Laboratory Procedures

C12 NBD dihydro Ceramide (d18:0/12:0) is supplied as a solid. A stock solution may be made by dissolving the C12 NBD dihydro ceramide (d18:0/12:0) in the solvent of choice, which should be purged with an inert gas. C12 NBD dihydro Ceramide (d18:0/12:0) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of C12 NBD dihydro ceramide (d18:0/12:0) in ethanol and DMSO is approximately 20 mg/ml and approximately 30 mg/ml in DMF.

Description

Ceramidase catalyzes the hydrolysis of the N-acyl linkage between the fatty acid and sphingosine base in ceramide to produce sphingosine and a free fatty acid. Three isoforms of ceramidases (acid, neutral, and alkaline) have been characterized based on differences in their catalytic pH optimum.^{1,2} C12 NBD dihydro ceramide (d18:0/12:0) is a fluorescent ceramide analog that contains a saturated bond in the C-4/C-5 position of the sphingosine backbone. C-12 NBD ceramide, which contains the C-4/C-5 double bond, is a fluorescent ceramidase substrate that can be used for the measurement of alkaline and neutral ceramidase activity from a variety of sources.³ C12 NBD dihydro ceramide (d18:0/12:0) may exhibit reduced activity in ceramidase assays compared to C-12 NBD ceramide. This is based on the observation that saturation of the C-4/C-5 sphingosine bond in C16-ceramide results in approximately a 10-fold reduction in efficiency as a substrate for rat brain ceramidase compared to the unsaturated substrate.⁴ However, experimental characterization of C12 NBD dihydro ceramide (d18:0/12:0) as a ceramidase substrate needs to be performed.

References

1. Tani, M., Okino, N., Mori, K., *et al.* *J. Biol. Chem.* **275**(15), 11229-11234 (2000).
2. Ferlinz, K., Kopal, G., Bernardo, K., *et al.* *J. Biol. Chem.* **276** (38), 35352-35360 (2001).
3. Tani, M., Okino, N., Mitsutake, S., *et al.* *J. Biochem.* **125**, 746-749 (1999).
4. Bawab, S.E., Usta, J., Roddy, P., *et al.* *J. Lipid Res.* **43**, 141-148 (2002).

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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM