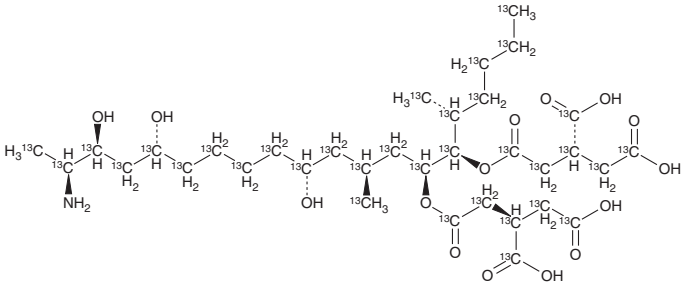
PRODUCT INFORMATION

Fumonisin B_1-$^{13}C_{34}$

Item No. 31272

CAS Registry No.: 1217458-62-2
Formal Name: (2R,2′R)-1,2,3-Propane-1,2,3-$^{13}C_3$-tricarboxylic-1,2,3-$^{13}C_3$ acid, 1,1′-[(1S,2R)-1-[(2S,4R,9R,11S,12S)-12-amino-4,9,11-trihydroxy-2-(methyl-^{13}C)tridecyl-1,2,3,4,5,6,7,8,9,10,11,12,13-$^{13}C_{13}$]-2-[(1R)-1-(methyl-^{13}C)pentyl-1,2,3,4,5-$^{13}C_5$]-1,2-ethanediyl-1,2-$^{13}C_2$] ester
Synonyms: FB_1-$^{13}C_{34}$
MF: $[^{13}C]_{34}H_{59}NO_{15}$
FW: 755.6
Purity: ≥95%
Supplied as: A 25 µg/ml 1:1 solution in acetonitrile:water
Storage: -20°C
Stability: ≥2 years



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

Description

Fumonisin B_1-$^{13}C_{34}$ (FB_1-$^{13}C_{34}$) is intended for use as an internal standard for the quantification of FB_1 (Item No. 62580) by GC- or LC-MS. FB_1 is a mycotoxin that has been found in *F. moniliforme*.[1] It inhibits ceramide synthase (IC_{50} = 0.1 µM for the rat liver enzyme).[2] FB_1 induces DNA fragmentation and apoptosis in CV-1 cells when used at concentrations of 5 and 25 µM, respectively.[3] It is cytotoxic to primary rat hepatocytes and induces hepatocyte nodule formation, a marker of cancer initiation, in rats when administered at a dose of 500 mg/kg for 21 days.[4] It has been detected in corn and corn-based foods and livestock feeds.[5]

References

1. Gelderblom, W.C.A., Jaskiewicz, K., Marasas, W.F.O., *et al.* Fumonisins-novel mycotoxins with cancer-promoting activity produced by *Fusarium moniliforme*. *Appl. Environ. Microbiol.* **54(7)**, 1806-1811 (1988).
2. Wang, E., Norred, W.P., Bacon, C.W., *et al.* Inhibition of sphingolipid biosynthesis by fumonisins. Implications for diseases associated with Fusarium moniliforme. *J. Biol. Chem.* **266(22)**, 14486-14490 (1991).
3. Ciacci-Zanella, J.R. and Jones, C. Fumonisin B_1, a mycotoxin contaminant of cereal grains, and inducer of apoptosis via the tumour necrosis factor pathway and caspase activation. *Food Chem. Toxicol.* **37(7)**, 703-712 (1999).
4. Gelderblom, W.C.A., Cawood, M.E., Snyman, S.D., *et al.* Structure-activity relationships of fumonisins in short-term carcinogenesis and cytotoxicity assays. *Food Chem. Toxicol.* **31(6)**, 407-414 (1993).
5. Bullerman, L.B. Occurrence of *Fusarium* and fumonisins on food grains and in foods. *Fumonisins in food*. Jackson, L.S., DeVries, J.W., Bullerman, L.B., editors, 1st edition, *Springer* (1996).

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