

PRODUCT INFORMATION

Deuterated Bile Acids MaxSpec® Discovery Mixture

Item No. 33506

- Supplied as:** A mixture in 1 ml of methanol (see CofA for concentrations); in a deactivated glass ampule
- Fill volume:** >1 ml
- Concentration:** See certificate of analysis for verified concentrations
- Storage:** -20°C
- Stability:** ≥5 years; *Stability testing is ongoing to ensure concentration accuracy. The certificate of analysis and product expiry date will be updated upon completion of testing.*
- Special Conditions:** Store upright and unopened at -20°C. Warm to room temperature prior to opening. Light sensitive.

Description

The Deuterated Bile Acids MaxSpec® Discovery Mixture contains deuterated versions of selected bile acids and is ideally suited for use as an internal standard in mass spectrometry applications. Bile acids are formed in the liver primarily from cholesterol and then transformed by intestinal microbiota into a diverse array of secondary bile acids.^{1,2} Primary and secondary bile acids can be modified by conjugation to glycine or taurine *via* an amide linkage. Bile acids are involved in the degradation of cholesterol in the liver and the solubilization of fatty acids in the small intestine and lipophilic xenobiotics in the biliary tract.¹ They also bind to and activate bile acid receptors, such as the farnesoid X receptor (FXR) and G protein-coupled bile acid-activated receptor (GP-BAR), which are involved in lipid, glucose, and energy metabolism.³ The Deuterated Bile Acids MaxSpec® Discovery Mixture contains deuterated primary and secondary bile acids, as well as glycine- and taurine-conjugated bile acids.

Deuterated Bile Acids MaxSpec® Discovery Mixture has been prepared specifically for mass spectrometry or any application where quantitative reproducibility is required. The solution has been prepared gravimetrically and is supplied in a deactivated glass ampule sealed under argon. The concentration was verified by comparison to an independently prepared calibration standard. The verified concentration is provided on the certificate of analysis. This Deuterated Bile Acids MaxSpec® Discovery Mixture is guaranteed to meet identity, purity, stability, and concentration specifications and is provided with a batch-specific certificate of analysis. Ongoing stability testing is performed to ensure the concentration remains accurate throughout the shelf life of the product. **Note:** *The amount of solution added to the vial is in excess of the listed amount. Therefore, it is necessary to accurately measure volumes for preparation of calibration standards. Follow recommended storage and handling conditions to maintain product quality.*

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Contents

The Deuterated Bile Acids MaxSpec® Discovery Mixture contains the following:

Item No.	Item Name	Concentration (nM)
31348	Cholic Acid-d ₄	1,150
31375	Taurocholic Acid-d ₄	1,000
31352	Glycocholic Acid-d ₄	1,150
31350	Deoxycholic Acid-d ₄	1,650
31563	Taurodeoxycholic Acid-d ₄	1,000
31553	Glycodeoxycholic Acid-d ₄	1,275
31366	Chenodeoxycholic Acid-d ₄	1,150
31362	Taurochenodeoxycholic Acid-d ₄	1,000
31364	Glycochenodeoxycholic Acid-d ₄	3,800
31354	Lithocholic Acid-d ₄	250
31571	Tauroolithocholic Acid-d ₄	250
31554	Glycolithocholic Acid-d ₄	250
31368	Ursodeoxycholic Acid-d ₄	300
31564	Tauroursodeoxycholic Acid-d ₄	500
31555	Glycoursodeoxycholic Acid-d ₄	600

References

1. Hofmann, A.F. and Hagey, L.R. Bile acids: Chemistry, pathochemistry, biology, pathobiology, and therapeutics. *Cell. Mol. Life Sci.* **65(16)**, 2461-2483 (2008).
2. Dawson, P.A. and Karpen, S.J. Intestinal transport and metabolism of bile acids. *J. Lipid Res.* **56(6)**, 1085-1099 (2015).
3. Kuipers, F., Bloks, V.W., and Groen, A.K. Beyond intestinal soap—bile acids in metabolic control. *Nat. Rev. Endocrinol.* **10(8)**, 488-498 (2014).

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