Certificate of Analysis

Reference Material & Standard

Product Name:	[13C7]-Vitamin B12	**Catalogue Number:**	LCFD202120-ME
Appearance:	Liquid	**Lot Number:**	0117-SA-7635
Solvent:	Methanol	**Storage:**	2°C ~ 8°C Protected from light and Sealed
Expiry Date:	Jan 17, 27		

Chemical Structure:

N/A

NO.	Component	CAS No.	Certified Concentration Value (μg/mL)	Uncertainty (%)
1	[13C7]-Vitamin B12		-0.2	1.5

Comment:

The uncertainty values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

CATO Research Chemicals Inc.

Signature:

Prepared by: Lisa Date: Jan 17, 26

Reviewed by: Yuki Date: Jan 17, 26

Approved by General Manager: David Date: Jan 17, 26

CATO Research Chemicals Inc.

Directions:

1. General description: This product was dissolved in Methanol and sub-packed in ampoule bottles. The outer packaging is plastic cylinder.

2. Characterization strategy: Certified reference materials were selected as raw materials. Characterization was based on the mass and volume of the components used in the preparation process. external standard method was used to verify the prepared value.

3. Metrological traceability: Through the use of raw materials with traceable purity values and tested/calibrated quality or volume measures, certified value results are ultimately traceable to SI basic units of mass kilogram (kg) and national statutory volume the unit of measurement liter (L).

4. Intended use: This product is suitable for identification and quantification of the analyte(s), instrument calibration, method development and quality control in analytical and R&D applications. It is not intended for administration to humans or animals, and shall not be used to diagnose, treat or cure any diseases.

5. Minimum sample size: For once use only.

6. Instructions for handling and correct use: Please shake thoroughly before use to ensure homogeneous.

Document Version:

Revision No.	Date	Reason for Revision
01	Jan 17, 26	First release.

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