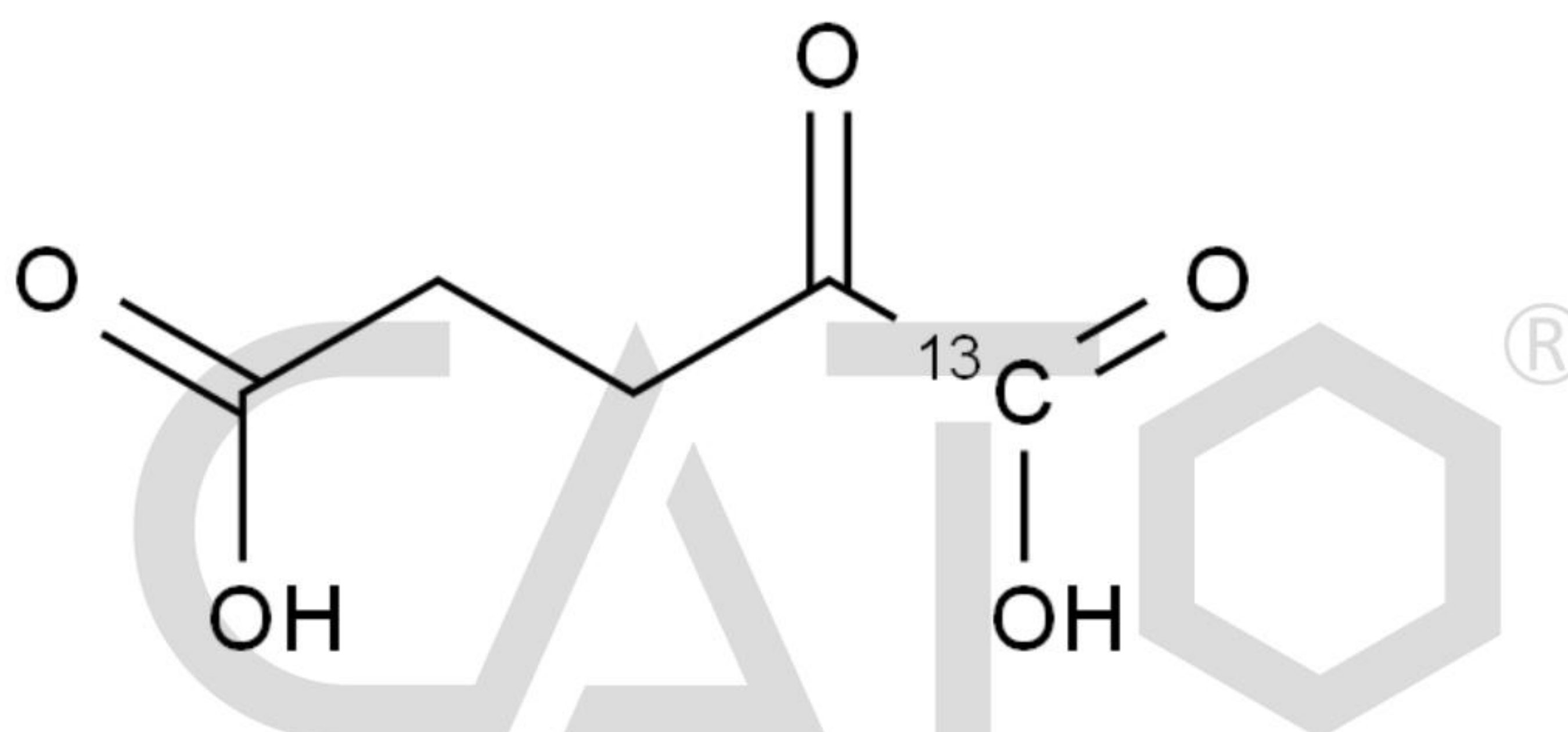


Certificate of Analysis

Reference Material & Standard

Product Name:	2-Ketoglutaric Acid-13C1	Catalogue Number:	CCHM704770
Synonyms:	N/A	Lot Number:	0514-RG-0084
CAS Number:	108395-15-9	Expiry Date:	Jan 13, 2029
Molecular Formula:	C4[13C]H6O5	Storage:	-20°C±5°C Protected from light and Sealed
Molecular Weight:	147.09	Warning:	

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	White to Off-White Solid
Identification	LCMS&CNMR&HNMR	Confirmed
Chemical Purity	HPLC	97.8%
Isotopic Purity		100.0%
Uncertainty		±0.4%

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.

Signature:

Prepared by:

Lisa

Reviewed by:

Hin Lam

Approved by General Manager:

David

Date: May 15, 2025

Date: May 15, 2025

Date: May 15, 2025

