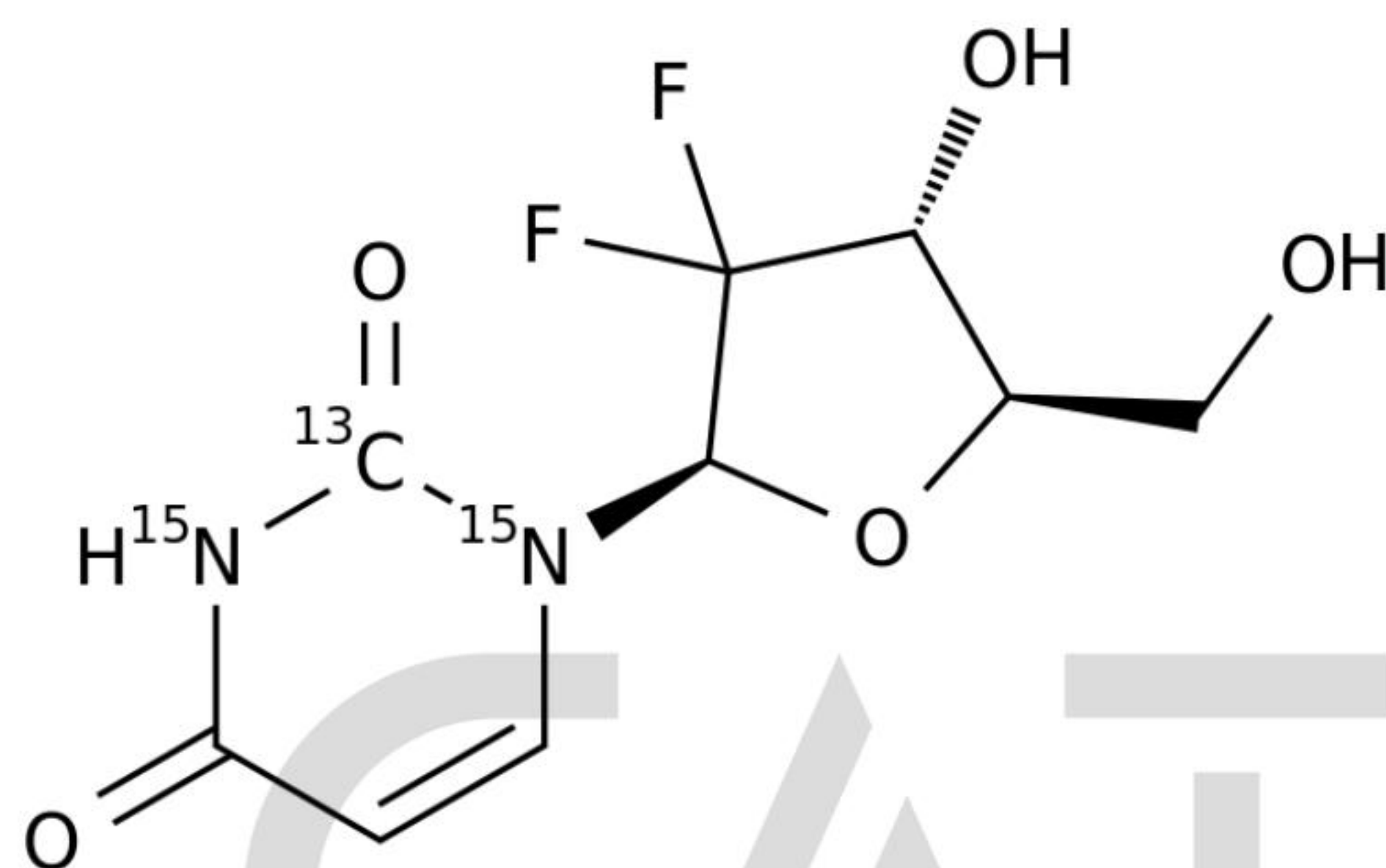


Certificate of Analysis

Reference Material

Product Name:	Gemcitabine EP Impurity C-13C-15N2	Catalogue Number:	C4X-137221
Chemical Name:	N/A	Lot Number:	0617-RD-0021
CAS Number:	1233921-75-9	Expiry Date:	Sep 23, 2024
Molecular Formula:	C8[13C]H10F2[15N]2O5	Storage:	2°C ~ 8°C Protected from light and Sealed
Molecular Weight:	267.16		

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	White to Off-White Solid
Identification	LCMS&IR&HNMR	Confirmed
Chemical Purity	HPLC	99.5%
Isotopic Purity		98.0% 15N; 99.0% 13C
Residual Solvents	NMR	Not detected in NMR
Optical Rotation		$[\alpha]_{D25.0}(c=0.30, H_2O)$: +33.1°
Assay	qNMR	94.7%

Comment:

Assay was determined by quantitative ¹H-NMR.

Signature:

Prepared by:

Debia

Reviewed by:

Hinlam

Aporoved by General manager

David

Date: Sep 28, 2021

Date: Jun 20, 2022

Date: Jun 20, 2022

