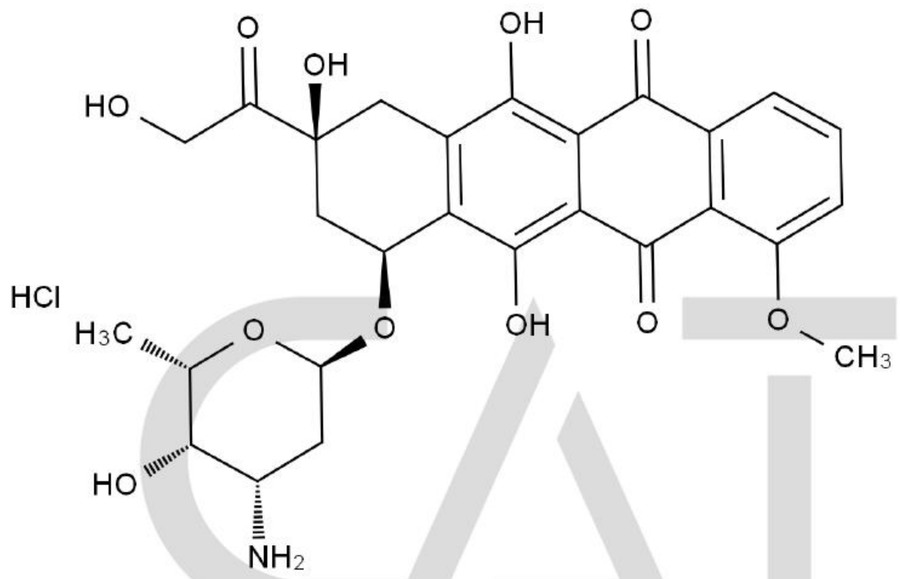
Certificate of Analysis

Reference Material & Standard

Product Name:	Doxorubicin Hydrochloride	**Catalogue Number:**	C4X-2033
Synonyms:	N/A	**Lot Number:**	1025-RH-0056
CAS Number:	25316-40-9	**Expiry Date:**	Oct 28, 2030
Molecular Formula:	$C_{27}H_{29}NO_{11}$ HCl	**Storage:**	2°C ~ 8°C Protected from light and Sealed
Molecular Weight:	543.52 36.46	**Shipping Condition:**	Shipping at Room Temperature

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	Orange-Red Solid
Identification	LCMS&HNMR	Confirmed
Purity	HPLC	98.985%
Residue on Ignition	TGA	0.7639%
Loss on Drying	TGA	0.2839%
Assay	qNMR	98.2%
Assay (Assigned Value)	Mass Balance	97.9%

Comment:

The calculation of the mass balance method follows the formula (calculated on the non-dried basis):
*Assay (%) = (100%-Residue on Ignition-Loss on Drying) * Purity HPLC (%) /100%*
Residue on Ignition and Loss on Drying are considered as absolute effect, HPLC purity is considered as relative effect.

Signature:

Prepared by: Alice — Date: Oct 29, 2026

Reviewed by: Koi — Date: Nov 02, 2026

Approved by General Manager: David — Date: Nov 02, 2026

CATO Research Chemicals Inc.