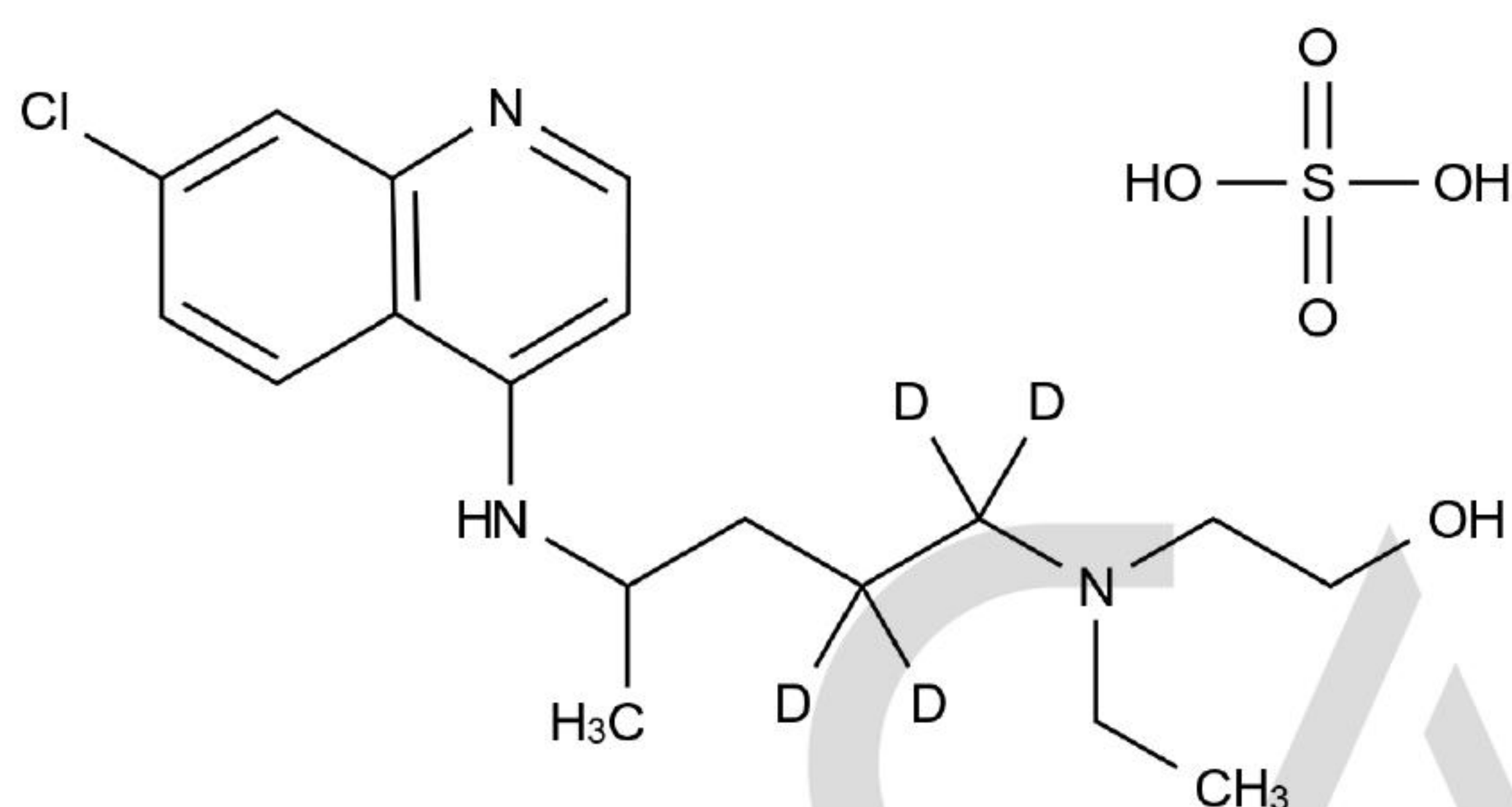


Certificate of Analysis

Reference Material & Standard

Product Name:	Hydroxychloroquine-d4 Sulfate	Catalogue Number:	CCAD303901
Synonyms:	N/A	Lot Number:	0923-RE-0011
CAS Number:	1216432-56-2	Expiry Date:	Aug 14, 2026
Molecular Formula:	C ₁₈ H ₂₂ D ₄ ClN ₃ O H ₂ O ₄ S	Storage:	2°C ~ 8°C Protected from light and Sealed
Molecular Weight:	339.90 98.08		
Chemical Structure:			



Warning:



Test Items	Method	Results
Appearance	Visual inspection	White to Off-White Solid
Identification	LCMS&HNMR	Confirmed
Chemical Purity	HPLC	99.70%
Isotopic Purity		98.1%
Water Content	Elemental Analysis	6.30%
Assay		93.4%
Uncertainty		±2.0%

Comment:

1. The calculation of the 100% method follows the formula (calculated on the non-dried basis):

$\text{Assay (\%)} = (100\% - \text{Water Content}) * \text{Purity HPLC (\%)} / 100\%$

Water Content is considered as absolute effect, HPLC purity is considered as relative effect.

2. 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:

Hinlam

Aproved by General Manager:

David

Date: Sep 25, 2023

Date: Sep 25, 2023

Date: Sep 25, 2023

