



CERTIFICATE OF ANALYSIS

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1. Identification

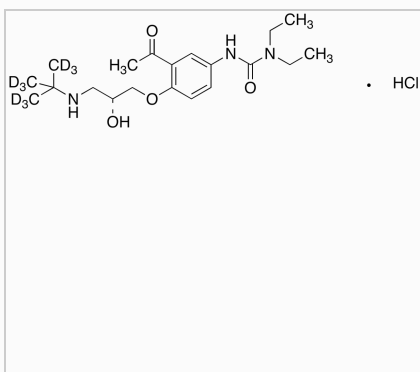
Catalogue Number: C254492

CAS Number: 1330045-90-3

Product: (R)-(+)-Celiprolol-d9 Hydrochloride

Synonym: N'-[3-Acetyl-4-[(2R)-3-[(1,1-dimethylethyl)amino]-2-hydroxypropoxy]phenyl]-N,N-diethylurea-d9 Hydrochloride; (+)-(R)-Celiprolol-d9 Hydrochloride; (+)-Celiprolol-d9 Hydrochloride; (R)-Celiprolol-d9 Hydrochloride; d-Celiprolol-d9 Hydrochloride;

Structure:



Molecular Formula:

$C_{20}H_{24}D_9N_3O_4 \cdot HCl$

Molecular weight:

388.56 + 36.46

Source of Product:

Synthetic

Solubility:

Methanol (Slightly), Water (Slightly)

Lot Number: 7-NRR-173-3

Purity: 97%

Shipping Condition: This Product Is Stable To Be Shipped At Room Temperature

Storage Condition: -20°C, Inert atmosphere

2. Warning

Warning 1:

Warning 2:

Warning 3:

3. Analytical Information

Tests:	Specifications:	Results:
Appearance	White to Off-White Solid	White Solid
NMR	Conforms to Structure	Conforms
MS	Conforms to Structure	Conforms
Isotopic Purity	>95%	99.0%
Elemental Analysis	Conforms	%C: 56.06, %H: 8.31, %N: 9.72
Chloride Content	Report Result	8.5%
Specific Rotation	Report Result	+7.1° (c = 0.1, Methanol)
HPLC Purity	Report Result	97.66% (235 nm)

Additional Information:

Normalized Intensity: d0 = 0.19%, d1 = 0.00%, d2 = 0.00%, d3 = 0.00%, d4 = 0.00%, d5 = 0.00%, d6 = 0.00%, d7 = 0.09%, d8 = 6.72%, d9 = 93.00%

Purity is based on the analytical results of the tests performed. NMR and Elemental Analysis (if available) may have an accuracy of $\pm 2\%$. Isotopic purity is based on mass distribution observed. The contents of the specifications are subject to change without advance notice, and the specification values displayed here are the most up to date values.

4. Signatures

Reviewed By

Nicole Yip



Reviewed By

Toni Rantanen



**C of A Approved
By**

Chanell Chu



Test Date

7/20/2022

Retest Date

7/18/2026