



CERTIFICATE OF ANALYSIS

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1. Identification

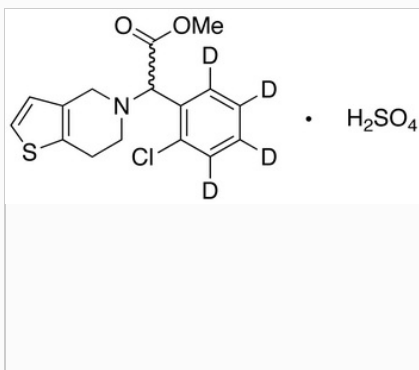
Catalogue Number: C587252

CAS Number: 1219274-96-0

Product: rac Clopidogrel-d4 Hydrogen Sulfate

Synonym: α -(2-Chlorophenyl-d4)-6,7-dihydro-thieno[3,2-c]pyridine-5(4H)-acetic Acid Methyl Ester Sulfate; (+/-)-Clopidogrel-d4 Bisulfate;

Structure:



Molecular Formula:

C₁₆H₁₄D₄ClNO₆S₂

Molecular weight:

423.92

Source of Product:

Synthetic

Solubility:

Methanol (Slightly), Water (Slightly)

Lot Number: 2024-NKR-032

Purity: 98%

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

Storage Condition: -20°C

2. Warning

Warning 1:

Warning 2:

Warning 3:

3. Analytical Information

Tests:	Specifications:	Results:
Appearance	White to Off-White Solid	White to Off-White Solid
NMR	Conforms to Structure	Conforms
MS	Conforms to Structure	Conforms
Elemental Analysis	Conforms	%C: 45.00, %H: 4.16, %N: 3.26
HPLC Purity	Report Result	99.48% (220 nm)
Isotopic Purity	>95%	99.8%
Sulfate Content	Report Result	21.9%

Additional Information:

Normalized Intensity: d0 = 0.02%, d1 = 0.00%, d2 = 0.29%, d3 = 0.00%, d4 = 99.69%

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	Reviewed By	C of A Approved By	Test Date	Retest Date
Henry Tieu	Toni Rantanen	Chanell Chu	3/14/2024	3/12/2028