SPUD GENE®

Towards Infinity Discovery

Certified Reference Material

PSILOCYBIN

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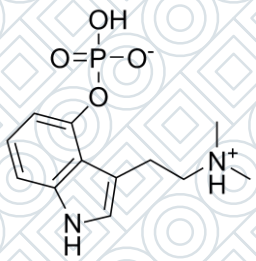
Certified Reference Material - Certificate of Analysis

Psilocybin (1H-indol-4-ol,3-[2-(dimethylamine) ethyl]-,4- (dihydrogen phosphate)

Identification	
Product No	S-073-1mL
Description of CRM	Psilocybin in Acetonitrile: Water (50:50) (Solution)
Expiration Date	See Stability Section
Storage	Store unopened and upright in sub-freezer (-60 °C to -80 °C).
Shipping	Ship cold.
Chemical formula	C12H17N2O4P
CAS No	520-52-5
Formula Weight	284.3
Molecular Structure	

Psilocybin (1.000 ± 0.006 mg/mL)

Intended use: This Certified Reference Material is suitable for the in vitro identification, calibration, and quantification of the analyte(s) in analytical and R&D applications.

Minimum sample size: 1 µL for quantitative applications.

Instructions for handling and correct use: Concentration is corrected for chromatographic purity, residual water, residual solvents, and residual inorganics. No adjustment required before use. Users should quantitatively transfer desired volume using established good laboratory practices to spike into matrix or to dilute to the desired concentration. Each ampoule is intended for one-time use.

Packaging: 2 mL amber USP Type 1 glass ampoule containing not less than 1 mL of certified solution. Ampoules are overfilled to ensure a minimum of 1 mL volume can be transferred when using a 1mL Class A volumetric pipette

Analyte certification

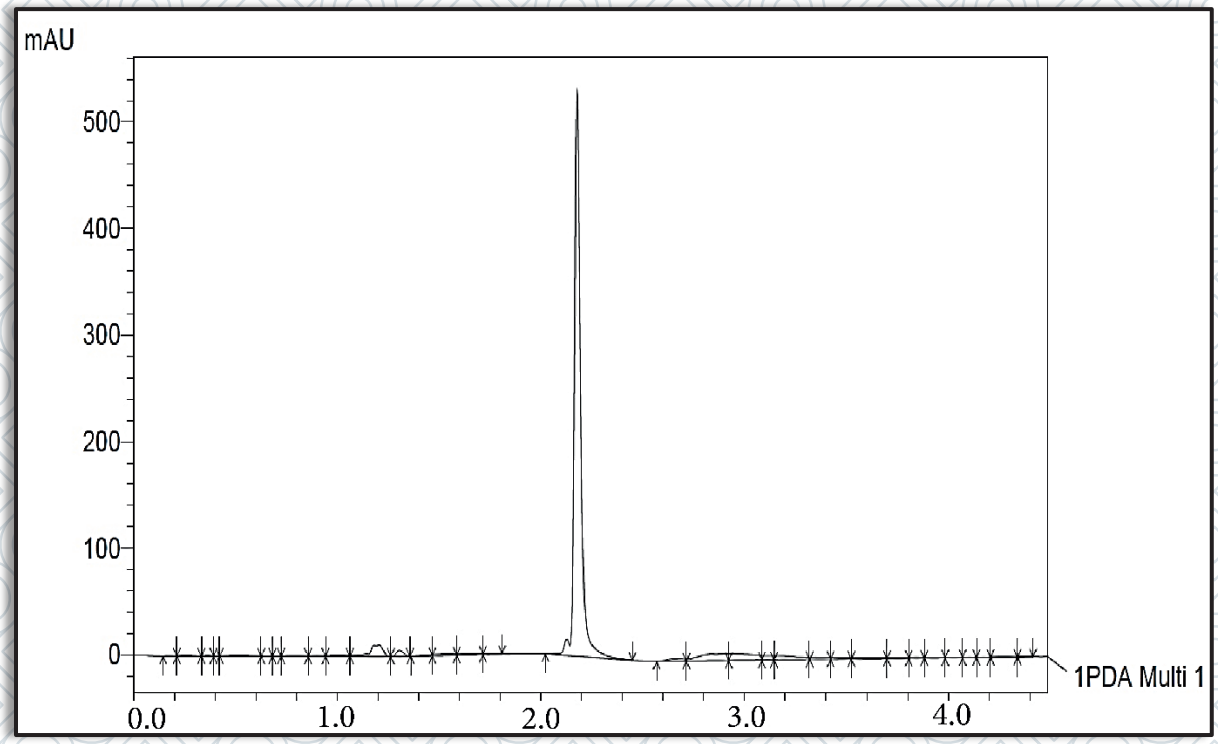
Each analyte is thoroughly identified and characterized using an orthogonal approach. The mass balance purity factor is utilized to calculate the weighing adjustment necessary to ensure accuracy of the solution standard concentration

Material Name: psilocybin	**Chemical Formula: $C_{12}H_{17}N_2O_4P$**	**CAS Number: 520-52-5**	**Molecular weight: 284.25**
Material Characterization Summary			
Analytical Test	Method	Results	
Chromatographic Purity by HPLC/UV Analysis	20384348[1]	99.9%	
Identity by LC/MS Analysis	20384217	Consistent with structure	
[1]Validation of Analytical Procedures			

Spectral and Physical Data

HPLC/UV

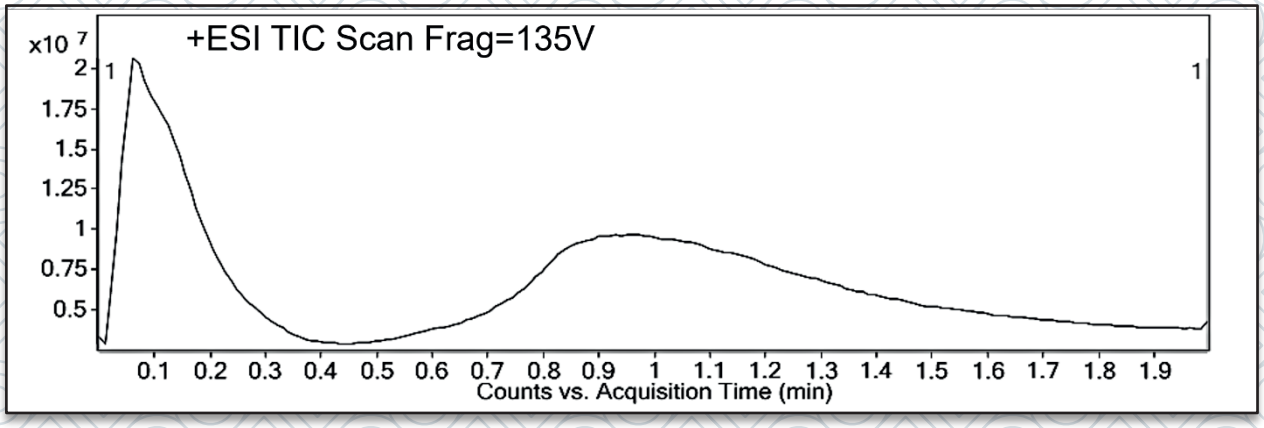
Column	Inertsil ODS-P HPLC Column, 5 µm, 250 x 4.6 mm
Mobile phase	A: 0.1 Phosphoric acid in Acetonitrile B: 0.1% Phosphoric acid in Water
Gradient	Time (min) A% B% 3 5 95 1.10 100 0 1.5 5 95
Flow Rate	1.2 min/ml
Wavelength	267 nm

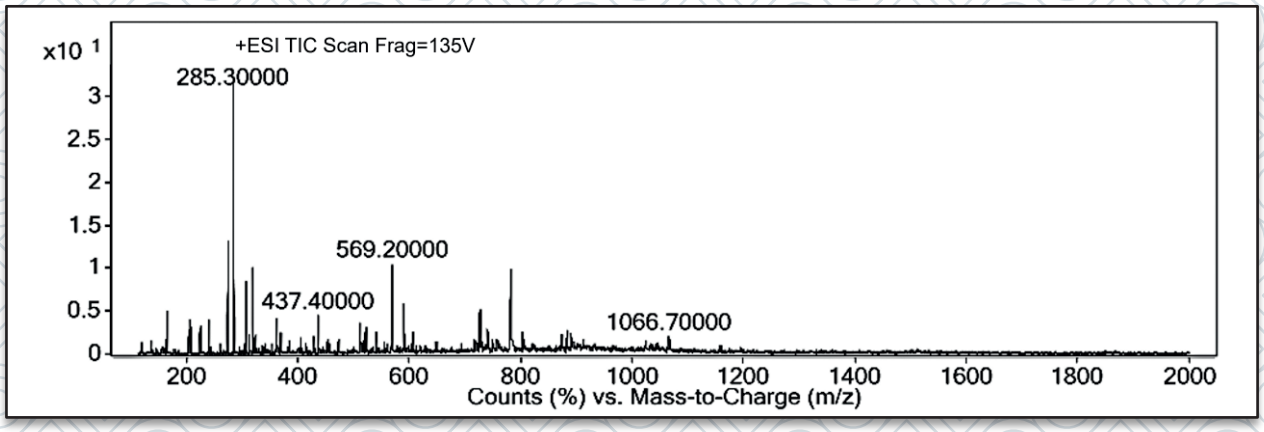


Spectral and Physical Data (cont.)

LC/MS

Column	Ascentis Express C18, 2.7 µm, 3.0 x 50 mm		
Mobile phase	A: 0.1% Formic acid in Water B: Acetonitrile		
Gradient	Time (min)	A%	B%
	0.0	98	2
	0.5	98	2
	4.0	80	20
	5.8	80	20
	6.0	98	2
	8.0	98	2
Flow Rate	1.2 min/ml		
Scan range	100-2000 amu		
Ionization	Electrospray, Positive Ion		
Instrument	Agilent 6410 Triple Quadrupole		




+ESI TIC Scan Frag=135V
x10 1
285.30000
569.20000
437.40000
1066.70000
Counts (%) vs. Mass-to-Charge (m/z)

Stability

Short term stability studies have been performed in multiple storage conditions for a period of up to 12 months. Short term data is utilized to support transport conditions and normal laboratory use. Real-time stability studies are performed at the recommended storage conditions over the life of the product

Short Term Stability: A summary of stability findings for this product is listed below.

Storage condition	Temperature	Time Period/Result
Sub-Freezer	-70°C	No decrease in purity was noted after 12 months.
Freezer	-20°C	
Refrigerator	5°C	
Room Temperature	20°C	
40°C	40°C	3.60% decrease in purity was noted after 6 months.
Transport/Shipping Ship cold		
Short Term Storage: Stability data supports short term storage for no more than 12 months at Freezer		
Long Term Stability: Long term stability has been assessed for Sub-freezer storage (-60 °C to -80 °C) conditions. Stability of a minimum of 48 months has been established through real-time stability studies		