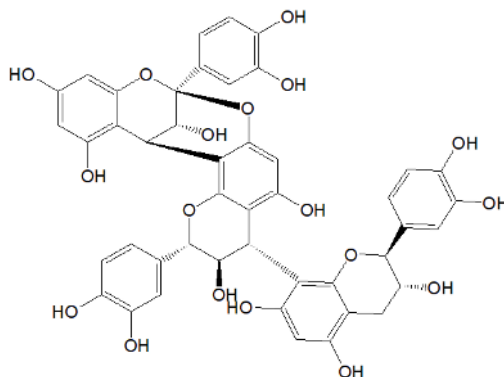


Certificate of Analysis

Product Information



PRODUCT	Lindetannin
BATCH #	040-177-301
ASSAY METHOD	HPLC-UV, ¹ H-NMR, ¹³ C-NMR, ICP-MS, HS-GC-FID, Karl Fischer
REPORT DATE	12/12/2022
CHEMICAL NAME	(1R,5S,6R,7S,13S,21R)-5,13-bis(3,4-dihydroxyphenyl)-7-[(2R,3S)-2-(3,4-dihydroxyphenyl)-3,5,7-trihydroxy-3,4-dihydro-2H-chromen-8-yl]-4,12,14-trioxapentacyclo[11.7.1.02,11.03,8.015,20]henicosa-2(11),3(8),9,15,17,19-hexaene-6,9,17,19,21-pentol
SMILES STRUCTURE	<chem>C1C(C(OC2=C1C(=CC(=C2)C3C(C(OC4=C3C(=CC5=C4)C6C(C(O5)(OC7=CC(=CC(=C67)O)O)C8=CC(=C(C=C8)O)O)O)C9=CC(=C(C=C9)O)O)O)O)C1=CC(=C(C=C1)O)O)O</chem>
OTHER NAMES	N/A
CHEMICAL FORMULA	C ₄₅ H ₃₆ O ₁₈
MOLECULAR WEIGHT	864.76 g/mol
CAS REG. #	N/A
STORAGE	<-18 degrees C; dark
EXPIRATION DATE	2024-12-12
NOTES	High residual water content is common in procyanidins. The water content stabilizes the structures from degradation. Certain procyanidins, which exist in crystalline form, also contain high residual water content.

Analytical Data

TEST	METHOD	SPECIFICATION	RESULT
HPLC	215 nm	>95%	95.1%
MS	ESI Positive	864.19	887.2 ([M+Na] ⁺)
¹ H-NMR		Conforms	Conforms
¹³ CNMR		Conforms	Conforms
Ion Analysis (ICP-MS)			LOQ
Residual Solvents (HS-GC-FID)			0.6%
Residual Water (Karl Fischer)			8.9%
Appearance	Off-white solid		
Adjusted Purity	85.6%		

The producer certifies that this reference material meets the specifications stated in this certificate until the expiration date, provided it is stored unopened at the recommended conditions. All analytical data is prepared and stored following GLP guidelines.

CERTIFIED BY	CERTIFIED TITLE	CERTIFIED ON	SIGNATURE
Vitold Glinski	CEO	12/12/2022	

Intended Use

This reference material is intended for laboratory use in analytical applications and as a quality control standard.

Safety

Proper precautions should be observed while handling, as defined in the Materials Safety Data Sheet (MSDS).

Storage

The product should be stored in the original packaging, sealed, and in the conditions dedicated in this certificate