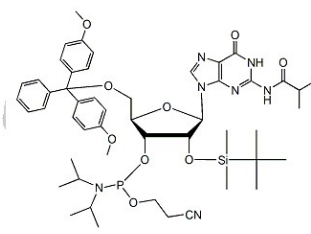


CERTIFICATE OF ANALYSIS

PRODUCT NAME:	TeraPure™ iBu rG Phosphoramidite	STRUCTURE 
PRODUCT NUMBER:	27-1906-10	
LOT NUMBER:	YB3152	
BULK NUMBER:	YB0019	
DESCRIPTION:	5'-O-Dimethoxytrityl-N ² -isobutyryl-2'-O-TBDMSi-guanosine-3'-O-(β-cyanoethyl-N,N-diisopropyl)phosphoramidite	
CHEMICAL FORMULA:	C ₅₀ H ₆₈ N ₇ O ₉ PSi	
MOLECULAR WEIGHT:	970.18 g/mol	
CAS NUMBER:	147201-04-5	
STORE:	-20°C	
SHIP:	Ambient	
MANUFACTURE DATE:	02/16/2023	
RETEST DATE:	08/19/2026	
EXPIRATION DATE:	02/15/2027	

ANALYSIS RESULTS

Property	Specification Limits	Observed Value
Appearance	White to pale yellow powder	Pass
Appearance	Color intensity of the powder must not exceed Pantone #P1-4U or #P4-2U	Pass
Solution Clarity	0.2M solution in acetonitrile is free from undissolved particulate	Pass
HPLC Purity (at 255 nm)	≥ 99%	100%
	Unknown single impurity ≤ 0.4%	None > 0.4%
	Non-critical single impurity: None > 0.5%	None > 0.5%
	Single critical impurity ≤ 0.4%	None > 0.4%
	Sum of critical impurities ≤ 1%	0%
Identification by UV Spectrum	The λ maxima of the sample and standard spectra are within ± 2 nm	Pass
M-11 Impurity	≤ 0.01% (3'-O-Isopropyl-N,N-diisopropylphosphoramidite)	Pass
³¹ P NMR Purity	≥ 99%	100%
	Sum of non-primary peaks at 140-152 ppm is ≤ 0.5%	0.0%
	No single impurity > 0.3% in the range of 140-152 ppm	None > 0.3%
	Sum of non-primary peaks at 5-35 ppm is ≤ 1.0%	0.0%
	No peak(s) above 170 ppm	Pass
Water Content	≤ 0.3%	0.1%
Residual Solvent	≤ 3.0% total % by weight solvent residue	2.3%
Material Origin (TSE/BSE)	No known animal-derived materials were used in the manufacture of this product	Pass

Phosphoramidites are sensitive to environmental conditions when in powder or liquid form. Take precautions to avoid potential precipitation, degradation or hydrolysis that can affect performance or delivery of the phosphoramidite during synthesis. Control temperature, humidity, and exposure time to air for both the phosphoramidite and diluent.



Gina Kogutkiewicz
Sr. Manager, Business Systems & Quality Compliance

QC Release By:

QC Release Date: 2/10/2023

Revision 17