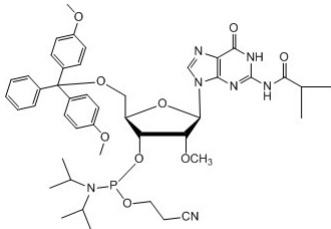


CERTIFICATE OF ANALYSIS

PRODUCT NAME:	2'-OMe Isobutyryl G β -Cyanoethyl Phosphoramidite	STRUCTURE 
PRODUCT NUMBER:	27-1846-11	
LOT NUMBER:	YL0292	
BULK NUMBER:	WK0185	
DESCRIPTION:	5'-O-Dimethoxytrityl-N ² -isobutyryl-2'-O-methyl-guanosine-3'-O-(β -cyanoethyl-N,N-diisopropyl phosphoramidite	
CHEMICAL FORMULA:	C ₄₅ H ₅₆ N ₇ O ₉ P	
MOLECULAR WEIGHT:	869.9 g/mol	
CAS NUMBER:	150780-67-9	
STORE:	-20°C	
SHIP:	Ambient	
MANUFACTURE DATE:	12/02/2021	
RETEST DATE:	06/04/2025	
EXPIRATION DATE:	12/01/2025	

ANALYSIS RESULTS

Property	Specification Limits	Observed Value
Appearance	White to pale yellow powder	Pass
	Color intensity must not exceed Pantone #P1-4U or #P4-2U	Pass
HPLC Purity	≥ 98.0%	99.6%
³¹ P NMR Purity	≥ 98.0%	99.8%
	Sum of non-primary peaks in 140-152 ppm range ≤ 0.5 mole%	0.0%
Water Content	≤ 0.2%	0.2%
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.

G. Kogutkiewicz

Gina Kogutkiewicz
Sr. Manager, Business Systems & Quality Compliance

QC Release By:

QC Release Date: 11/11/2021

Revision 13