

Certificate of Analysis

Compound Name	2'-Deoxycytidine 5'-triphosphate (dCTP), 100 mM Sodium Salt Solution
CAS Number	102783-51-7
Catalog Number	NU-1002
Lot Number	100.860
Formula	C₉H₁₃N₃O₁₃P₃ (Anion)
Formula Weight	464.13 Da
Storage	at -20°C
Stability	24 months from Certification Date

	Test	Specification	Results
Biophysical	Appearance	clear colorless solution	conforms
	Concentration ⁽¹⁾ (A _{271 nm} , 22 °C, pH 7.0, ε = 8.9 l x mmol ⁻¹ x cm ⁻¹)	100-110 mM	110 mM
	A _{250 nm} / A _{260 nm} (22 °C, pH 7.0)	0.82 ± 0.02	0.82
	A _{280 nm} / A _{260 nm} (22 °C, pH 7.0)	0.97 ± 0.02	0.97
	A _{290 nm} / A _{260 nm} (22 °C, pH 7.0)	0.30 ± 0.02	0.29
	pH (4 °C)	8.5 ± 0.1	8.6
HPLC	dCTP (C18-RP-UV, 271 nm)	≥ 99.0% (area)	99.1%
	dCDP (C18-RP-UV, 271 nm)	≤ 0.9% (area)	0.9%
	dCMP (C18-RP-UV, 271 nm)	≤ 0.5% (area)	-
Anions & Cations	Chloride Cl ⁻ (Anion chromatography)	≤ 2 mM	1.3 mM
	Acetate CH ₃ COO ⁻ (GC/FID)	≤ 2 mM	< 0.2 mM
	Phosphate PO ₄ ³⁻ (Anion chromatography)	≤ 0.2 mM	< 0.1 mM
	Pyrophosphate P ₂ O ₆ ⁴⁻ (enzymatic)	≤ 0.05 mM	conforms
	Magnesium Mg ²⁺ (ICP-MS)	≤ 0.25 mM	0.01 mM
	Calcium Ca ²⁺ (ICP-MS)	≤ 0.25 mM	0.03 mM
	Total Heavy Metals ⁽²⁾ (ICP-MS)	≤ 5 µg x ml ⁻¹	0.3 µg x ml ⁻¹
Functional	Low Copy Long Range PCR (18 kb, lambda DNA, template dilution series)	PCR fragment with 100 pg of template or less	50 pg
	RT-PCR (600 bp fragment, human GAPDH gene, template dilution series)	PCR fragment with 100 pg of template or less	100 pg
	Contamination with bacterial DNA (qPCR, 16S rRNA ⁽³⁾)	not detectable	conforms
	Contamination with human DNA (qPCR, beta-actin gene ⁽⁴⁾)	not detectable	conforms
	DNases, RNases, Nicking Activity (FRET)	not detectable	conforms
	Proteases (UV-Vis)	not detectable	conforms

⁽¹⁾ Cavaluzzi & Borer (2004) Nucleic Acids Res. 32(1):e13

⁽²⁾ Ba, Cd, Co, Cr, Cu, Fe, Mn, Mo, Ni, Pb, Sn, U

⁽³⁾ Greisen et al. (1994) J. Clin. Microbiol. 32(2):335

⁽⁴⁾ Fields et al. (2001) Toxicol. Sci. 63:107

Certification Date: 2009, June 23



Sebastian Buegener, Quality Control