

Certificate of Analysis



Compound Name	2'-Deoxythymidine 5'-triphosphate (dTTP), 100 mM Sodium Salt Solution
CAS Number	18423-43-3
Catalog Number	DTTP_100ML DTTP_1000ML
Lot Number	101.708
Formula	C₁₀H₁₄N₂O₁₄P₃ (Anion)
Formula Weight	479.14 g/mol
Storage	at -20°C
Stability	24 months from Certification Date

	Test	Specification	Results
Biophysical	Appearance	clear colorless solution	conforms
	Concentration ⁽¹⁾ (A _{267 nm} , 22 °C, pH 7.0, ε = 9.5 l x mmol ⁻¹ x cm ⁻¹)	100-110 mM	105 mM
	A _{250 nm} / A _{260 nm} (22 °C, pH 7.0)	0.64 ± 0.03	0.63
	A _{280 nm} / A _{260 nm} (22 °C, pH 7.0)	0.74 ± 0.03	0.74
	pH (22 °C)	8.5 ± 0.2	8.5
HPLC	dTTP (C18-RP-UV, 267 nm)	≥ 99.0% (area)	99.7%
	dTDP (C18-RP-UV, 267 nm)	≤ 0.5% (area)	0.2%
	UTP (C18-RP-UV, 267 nm)	≤ 0.1% (area)	not detectable
Anions & Cations	Chloride Cl ⁻ (Anion chromatography)	≤ 10 mM	3.6 mM
	Acetate CH ₃ COO ⁻ (GC/FID)	≤ 2 mM	0.2 mM
	Magnesium Mg ²⁺ (ICP-MS)	≤ 5 mM	0.02 mM
	Calcium Ca ²⁺ (ICP-MS)	≤ 0.25 mM	0.02 mM
	Total Heavy Metals ⁽²⁾ (ICP-MS)	≤ 5 µg x ml ⁻¹	0.98 µg x ml ⁻¹
Functional	Low Copy Long Range PCR (18 kb, lambda DNA, template dilution series)	PCR fragment with 50 pg of template or less	20 pg
	RT-PCR (749 bp fragment, human GAPDH gene, template dilution series)	PCR fragment with 10 pg of template or less	5 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: 2018, September 28

Dirk Femerling, Quality Control