

# Certificate of Analysis

<b>Compound Name</b>	<b>2'-Deoxythymidine 5'-triphosphate (dTTP), 100 mM Sodium Salt Solution</b>
<b>CAS Number</b>	<b>18423-43-3</b>
<b>Catalog Number</b>	<b>NU-1004</b>
<b>Lot Number</b>	<b>100.834</b>
<b>Formula</b>	<b>C<sub>10</sub>H<sub>14</sub>N<sub>2</sub>O<sub>14</sub>P<sub>3</sub> (Anion)</b>
<b>Formula Weight</b>	<b>479.14 Da</b>
<b>Storage</b>	<b>at -20°C</b>
<b>Stability</b>	<b>24 months from Certification Date</b>

	<b>Test</b>	<b>Specification</b>	<b>Results</b>
<b>Biophysical</b>	Appearance	clear colorless solution	conforms
	Concentration <sup>(1)</sup> (A <sub>267 nm</sub> , 22 °C, pH 7.0, ε = 9.5 l x mmol <sup>-1</sup> x cm <sup>-1</sup> )	100-110 mM	100 mM
	A <sub>250 nm</sub> / A <sub>260 nm</sub> (22 °C, pH 7.0)	0.64 ± 0.02	0.63
	A <sub>280 nm</sub> / A <sub>260 nm</sub> (22 °C, pH 7.0)	0.74 ± 0.02	0.73
	A <sub>290 nm</sub> / A <sub>260 nm</sub> (22 °C, pH 7.0)	0.24 ± 0.02	0.23
	pH (4 °C)	8.5 ± 0.1	8.6
<b>HPLC</b>	dTTP (C18-RP-UV, 267 nm)	≥ 99.0% (area)	99.1%
	dTDP (C18-RP-UV, 267 nm)	≤ 0.9% (area)	0.2%
	dTMP (C18-RP-UV, 267 nm)	≤ 0.5% (area)	-
<b>Anions &amp; Cations</b>	Chloride Cl <sup>-</sup> (Anion chromatography)	≤ 2 mM	1.2 mM
	Acetate CH <sub>3</sub> COO <sup>-</sup> (GC/FID)	≤ 2 mM	0.4 mM
	Phosphate PO <sub>4</sub> <sup>3-</sup> (Anion chromatography)	≤ 0.2 mM	< 0.1 mM
	Pyrophosphate P <sub>2</sub> O <sub>6</sub> <sup>4-</sup> (enzymatic)	≤ 0.05 mM	conforms
	Magnesium Mg <sup>2+</sup> (ICP-MS)	≤ 0.25 mM	0.01 mM
	Calcium Ca <sup>2+</sup> (ICP-MS)	≤ 0.25 mM	0.04 mM
	Total Heavy Metals <sup>(2)</sup> (ICP-MS)	≤ 5 µg x ml <sup>-1</sup>	0.4 µg x ml <sup>-1</sup>
<b>Functional</b>	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 <sup>(3)</sup> )	not detectable	conforms
	Contamination with human DNA (qPCR, beta-actin gene <sup>(4)</sup> )	not detectable	conforms
	DNases, RNases, Nicking Activity (FRET)	not detectable	conforms
	Proteases (UV-Vis)	not detectable	conforms

<sup>(1)</sup> Cavaluzzi & Borer (2004) Nucleic Acids Res. 32(1):e13

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

<sup>(3)</sup> Greisen et al. (1994) J. Clin. Microbiol. 32(2):335

<sup>(4)</sup> Fields et al. (2001) Toxicol. Sci. 63:107

Certification Date: 2008, Nov. 21



Sebastian Buegener, Quality Control