

Ribonucleotide Set

F-622

ATP, CTP, GTP and UTP

4 X 25 µmol 100 mM

Store at -20 °C

Stable for one year from the assay date.

A complete set of four ribonucleoside triphosphates ATP, CTP, GTP and UTP in separate tubes. Each nucleotide is supplied as a 100 mM solutions in water, pH 7.5.

Spectral analysis:

	Formula	MW (g/mol)	Spectral analysis	Finnzymes specifications	Observed values
ATP¹⁾	C ₁₀ H ₁₂ N ₅ O ₁₃ P ₃ Na ₄	595.1	λ_{Max}		259 nm
			250/260	0.78 ±0.03	0.79
			280/260	0.13 ±0.05	0.14
CTP²⁾	C ₉ H ₁₂ N ₅ O ₁₄ P ₃ Na ₄	571.1	λ_{Max}		280 nm
			250/260	0.45 ±0.04	0.44
			280/260	2.10 ±0.15	2.11
			290/260	1.60 ±0.10	1.56
GTP³⁾	C ₁₀ H ₁₂ N ₅ O ₁₄ P ₃ Na ₄	611.1	λ_{Max}		253 nm
			250/260	1.18 ±0.04	1.16
			280/260	0.67 ±0.03	0.66
			290/260	0.28 ±0.03	0.27
UTP¹⁾	C ₉ H ₁₁ N ₂ O ₁₅ P ₃ Na ₄	572.1	λ_{Max}		262 nm
			250/260	0.74 ±0.03	0.74
			280/260	0.37 ±0.03	0.36

¹⁾ Spectral readings measured in 20 mM sodium phosphate (pH 7.0)

²⁾ Spectral readings measured in 0.01 N HCl (pH 2.0)

³⁾ Spectral readings measured in 20 mM potassium phosphate (pH 7.5)

Chromatographic analysis: The following purities were determined by Mono Q HR 5 / 5 FPLC using a 50 mM to 350 mM sodium chloride gradient containing 5 mM sodium phosphate (pH 7.0):

	Purity (%)
ATP¹⁾	99.2
CTP²⁾	99.0
GTP³⁾	99.3
UTP¹⁾	99.6

Each of the triphosphates were digested with alkaline phosphatase. The digests were chromatographed on a C-18 column. No other nucleosides were detected.

Ribonuclease assay: Incubation of 100 nmol of NTP (5 mM final concentration) with 50 pmol of ³H-poly(rA) for 30 min at 37°C released no ethanol-soluble radioactivity.

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