

NTP Specifications

| | ATP; 100 mM Sodium Salt Solution | CTP; 100 mM Sodium Salt Solution | GTP; 100 mM Sodium Salt Solution | UTP; 100 mM Sodium Salt Solution |
|---|---|--|---|--|
| Nomenclature | Adenosine 5'-triphosphate | Cytidine 5'-triphosphate | Guanosine 5'-triphosphate | Uridine 5'-triphosphate |
| CAS Number | 987-65-5 | 36051-68-0 | 36051-31-7 | 19817-92-6 |
| Catalog Number | NU-1010 | NU-1011 | NU-1012 | NU-1013 |
| Formula (Anion) | <chem>C10H13N5O13P3</chem> | <chem>C9H13N3O14P3</chem> | <chem>C10H13N5O14P3</chem> | <chem>C9H12N2O15P3</chem> |
| Formula Weight (g x mol⁻¹) (Anion) | 504.16 | 480.16 | 520.15 | 481.11 |
| Storage | at -20 °C | at -20 °C | at -20 °C | at -20 °C |
| Stability | 24 months | 24 months | 24 months | 24 months |
| Appearance | clear colorless solution | clear colorless solution | clear colorless solution | clear colorless solution |
| Concentration ⁽¹⁾ (22°C, pH 7.0) | 100 mM ± 2% (A _{259 nm} , ε = 15.1 l x mmol ⁻¹ x cm ⁻¹) | 100 ± 2% mM (A _{271 nm} , ε = 8.9 l x mmol ⁻¹ x cm ⁻¹) | 100 mM ± 2% (A _{252 nm} , ε = 14.2 l x mmol ⁻¹ x cm ⁻¹) | 100 mM ± 2% (A _{262 nm} , ε = 9.8 l x mmol ⁻¹ x cm ⁻¹) |
| A_{250 nm} / A_{260 nm} (22 °C, pH 7.0) | 0.78 ± 0.02 | 0.82 ± 0.02 | 1.15 ± 0.03 | 0.74 ± 0.02 |
| A_{280 nm} / A_{260 nm} (22 °C, pH 7.0) | 0.15 ± 0.01 | 0.97 ± 0.02 | 0.67 ± 0.02 | 0.38 ± 0.02 |
| A_{290 nm} / A_{260 nm} (22 °C, pH 7.0) | NA | 0.30 ± 0.02 | 0.28 ± 0.02 | 0.04 ± 0.01 |
| pH (4°C) | 8.0 ± 0.2 | 8.0 ± 0.2 | 8.0 ± 0.2 | 8.0 ± 0.2 |
| NTP (HPLC area) | ≥ 99.0% | ≥ 99.0% | ≥ 99.0% | ≥ 99.0% |
| NDP (HPLC area) | ≤ 1.0% | ≤ 1.0% | ≤ 1.0% | ≤ 1.0% |
| in vitro Transcription (T7 RNA polymerase, 1423 bp template) | visible RNA fragment after 5 min incubation | visible RNA fragment after 5 min incubation | visible RNA fragment after 5 min incubation | visible RNA fragment after 5 min incubation |
| DNases, RNases, Nicking Activity (FRET) | not detectable | not detectable | not detectable | not detectable |
| Proteases (UV-Vis) | not detectable | not detectable | not detectable | not detectable |

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