

## DATA SHEET

### dNTP Set incl. dUTP, PCR Grade

**100 mM solutions of dATP, dCTP, dGTP, dUTP**

Cat.-No.	Volume	Amount	Conc.
NU-1009S	4 x 200 µl	4 x 20 µmol	100 mM
NU-1009L	4 x 1 ml	4 x 100 µmol	100 mM

Description	dNTP Set incl. dUTP contains four separate tubes of dATP, dCTP, dGTP and dUTP supplied as ultrapure aqueous solutions and suitable for all molecular biology applications including PCR/qPCR, DNA labeling and DNA sequencing. dUTP can be used in place of dTTP in PCR and RT-PCR protocols to prevent carry-over contaminations from previous amplifications.
Storage	Store at -20°C, short term (up to one week) exposure to ambient temperature possible
Stability	Quality guaranteed for 12 months

### Biophysical Specifications

	dATP	dCTP	dGTP	dUTP
CAS Number	1927-31-7	102783-51-7	93919-41-6	102814-08-4
Formula (Anion)	C <sub>10</sub> H <sub>13</sub> N <sub>5</sub> O <sub>12</sub> P <sub>3</sub>	C <sub>9</sub> H <sub>13</sub> N <sub>5</sub> O <sub>13</sub> P <sub>3</sub>	C <sub>10</sub> H <sub>13</sub> N <sub>5</sub> O <sub>13</sub> P <sub>3</sub>	C <sub>9</sub> H <sub>12</sub> N <sub>2</sub> O <sub>14</sub> P <sub>3</sub>
Molecular Weight	488.16 g·mol <sup>-1</sup>	464.13 g·mol <sup>-1</sup>	504.16 g·mol <sup>-1</sup>	465.12 g·mol <sup>-1</sup>
Appearance	clear aqueous solution	clear aqueous solution	clear aqueous solution	clear aqueous solution
Concentration (22°C, pH 7.0)	100-110 mM (A <sub>259 nm</sub> , ε = 15.1 l·mmol <sup>-1</sup> ·cm <sup>-1</sup> )	100-110 mM (A <sub>271 nm</sub> , ε = 8.9 l·mmol <sup>-1</sup> ·cm <sup>-1</sup> )	100-110 mM (A <sub>252 nm</sub> , ε = 14.2 l·mmol <sup>-1</sup> ·cm <sup>-1</sup> )	100-110 mM (A <sub>262 nm</sub> , ε = 9.8 l·mmol <sup>-1</sup> ·cm <sup>-1</sup> )
A <sub>250 nm</sub> / A <sub>260 nm</sub> (22°C, pH 7.0)	0.78 ± 0.02	0.82 ± 0.02	1.15 ± 0.03	0.74 ± 0.02
A <sub>280 nm</sub> / A <sub>260 nm</sub> (22°C, pH 7.0)	0.15 ± 0.01	0.97 ± 0.02	0.67 ± 0.02	0.38 ± 0.02
A <sub>290 nm</sub> / A <sub>260 nm</sub> (22°C, pH 7.0)	--	0.30 ± 0.02	0.28 ± 0.02	0.04 ± 0.02
pH (4°C)	8.5 ± 0.1	8.5 ± 0.1	8.5 ± 0.1	8.5 ± 0.1
Purity (HPLC area)	dATP ≥ 99.0% dADT ≤ 0.9% dAMP ≤ 0.5%	dCTP ≥ 99.0% dCDT ≤ 0.9% dCMP ≤ 0.5%	dGTP ≥ 99.0% dGDT ≤ 0.9% dGMP ≤ 0.5%	dUTP ≥ 99.0% dUDT ≤ 0.9% dUMP ≤ 0.5%

### Functional Specifications

Low Copy Long Range PCR (18 kb, lambda DNA, template dilution series)	PCR fragment with 100 pg of template or less (dUTP: Low Copy PCR, 1 kb, lambda DNA, template dilution series)
RT-PCR (600 bp fragment, human GAPDH gene)	PCR fragment with 100 pg of template or less (only for dATP, dCTP, dGTP)
Contamination with bacterial or human DNA	not detectable
DNases, RNases, Nicking Activity	not detectable
Proteases	not detectable