

Technical bulletin

dNTP

QF 24 V4
V2 Sept 2023

Capacity highlights

- We **directly manufacture** our dNTP.
- Our **quality control** ensures **lot to lot** consistency.
- Our dNTP is available in **bulk volume** with **bulk pricing**.

Test sample information

1. Control samples

dATP, dCTP, dGTP, dTTP (Bio Basic), dATP, dCTP, dGTP, dTTP (Competitor)

2. Test samples

dATP (100 mM), dCTP (100 mM), dGTP (100 mM), dTTP (100 mM)

Comparative sample

1. HPLC

1.1 Mix the test sample and the control sample dATP, dCTP, dGTP, and dTTP to prepare 2 mM dNTPs for HPLC testing.

1.2 Obtain the map.

2. qPCR

2.1 Mix the test samples dATP, dCTP, dGTP, and dTTP to prepare 2.5 mM dNTPs.

Comparative sample cont.

2.2 Dilute the control substance to 2.5 mM dNTPs.

2.3 Perform quantitative PCR detection on test samples and control substances.

2.3.1 Reaction system

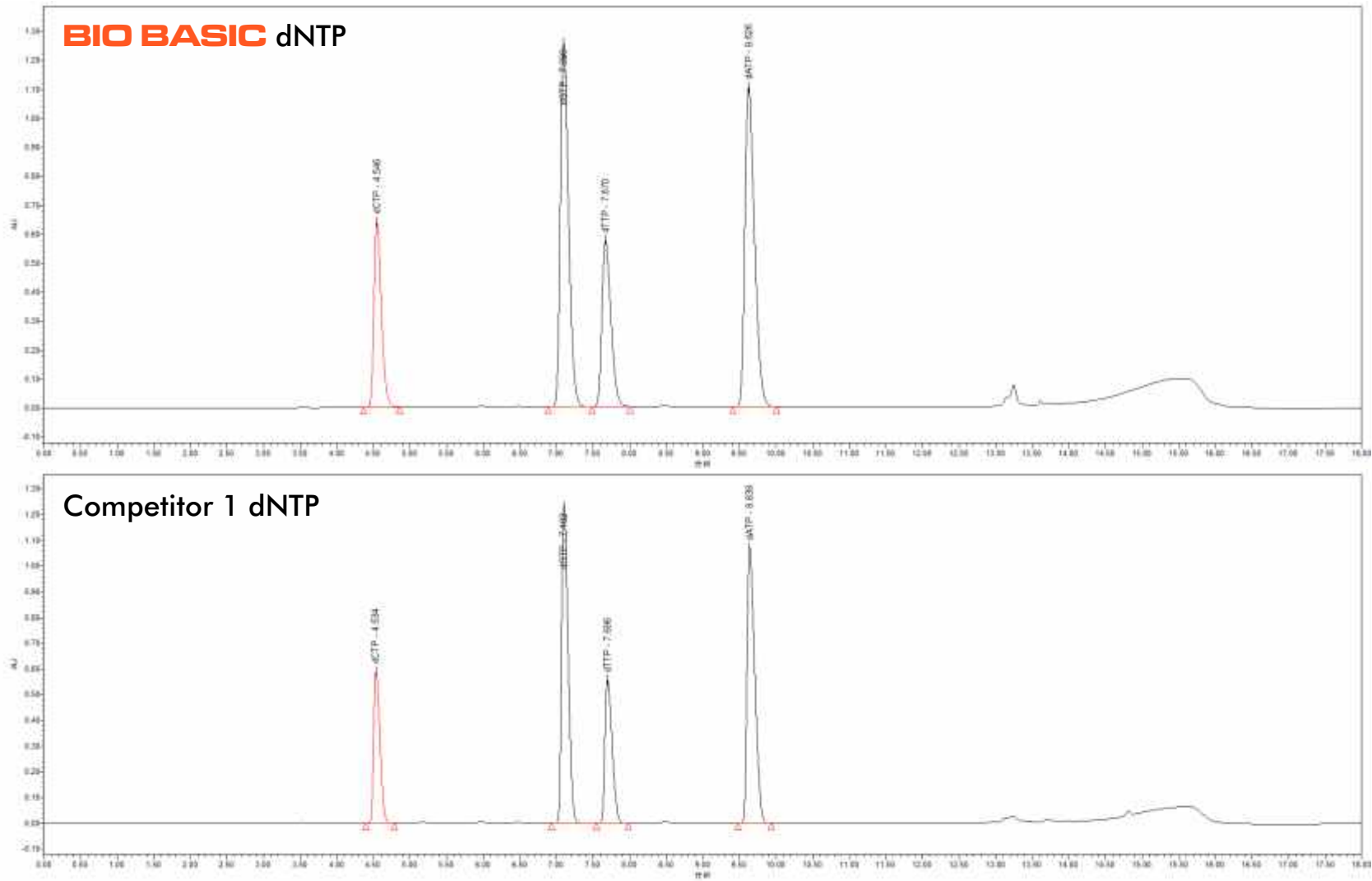
2x Taq qPCR mix (dNTP)	10 µl
RD-QC-human79F (10 µM)	0.5 µl
RD-QC-human79R (10 µM)	0.5 µl
RD_QC_79probe (10 µM)	0.5 µl
human-79- plasmid	1 µl
dNTPs (2.5 mM)	1.6 µl
ddH2O	5.9 µl

2.3.2 Reaction conditions

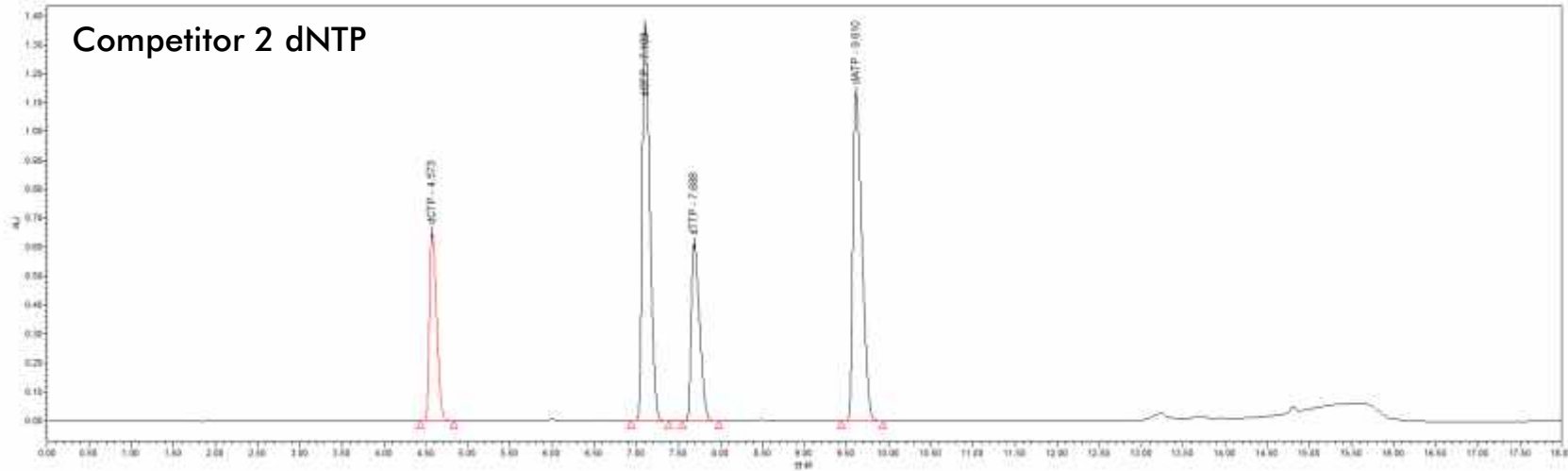
95°C, 3 min, (95°C 10 s, 60°C 30s acquisition) 45 cycles

Summary of test results

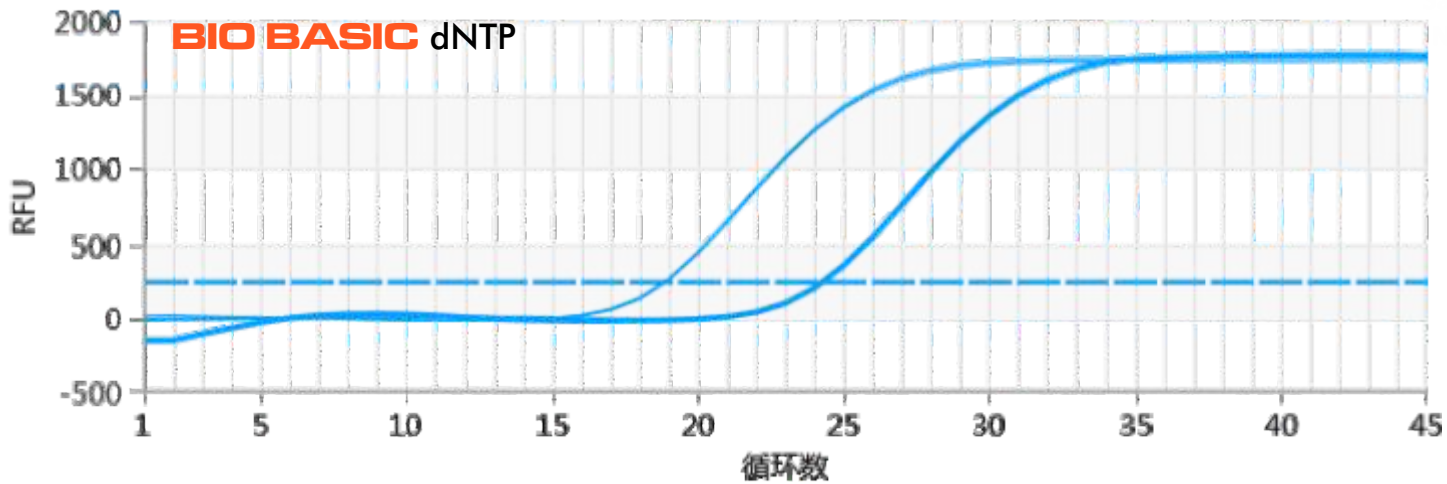
1. HPLC spectrum comparison



Summary of test results cont.

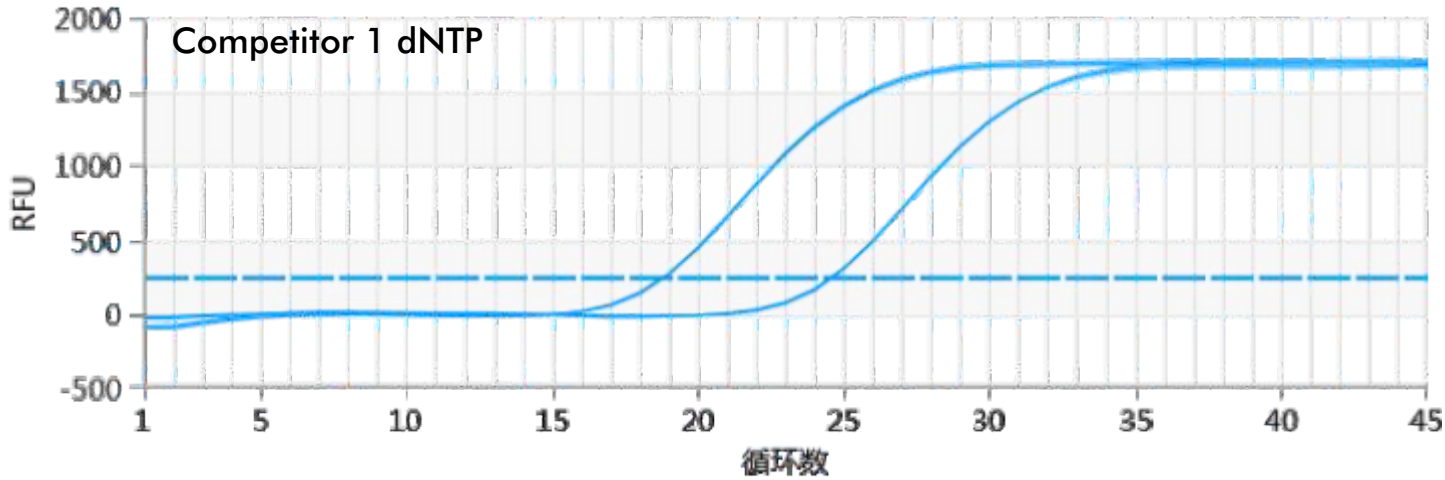


2. qPCR comparison results

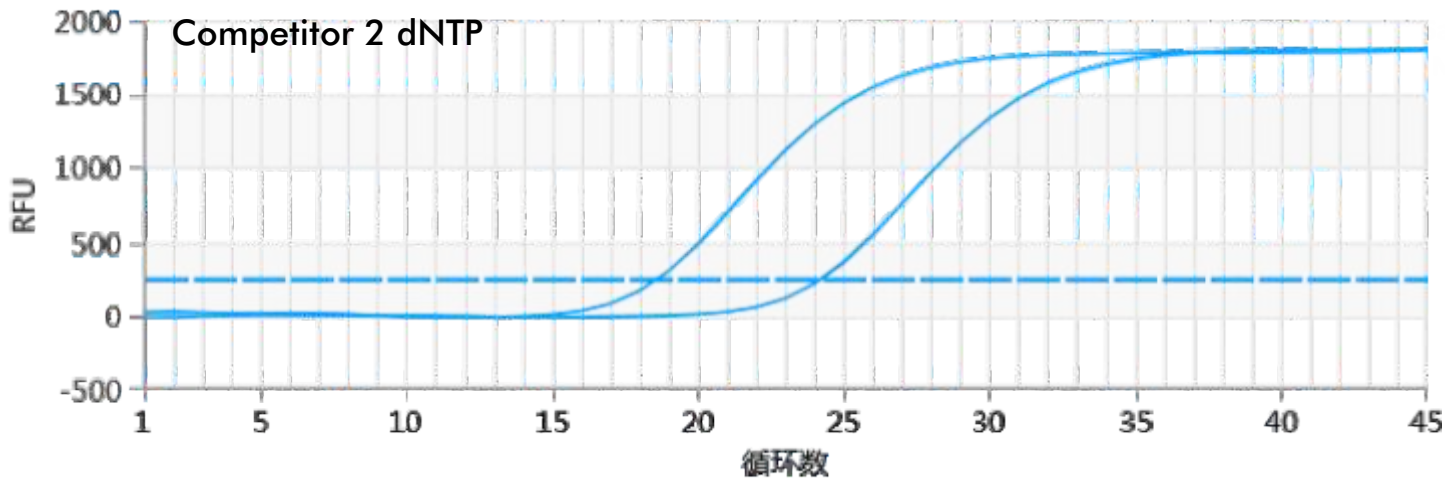


Template Amount	CT Value	Average Value
0.001ng	18.887	18.91
	18.926	
0.0001ng	24.348	24.34
	24.324	

Summary of test results cont.



Template Amount	CT Value	Average Value
0.001ng	18.816	18.85
	18.879	
0.0001ng	24.598	24.62
	24.645	



Template Amount	CT Value	Average Value
0.001ng	18.902	18.88
	18.855	
0.0001ng	24.441	24.46
	24.473	

3. Comparison of dNTPs full inspection results

Table 1. Comparison of dATP full test results

Test items	Detection Indicator	dATP	
		Bio Basic	Competitor
Concentration	100±3 mM	100.1 mM	Conforms
pH	7.3-7.5	-	Conforms
Appearance	Clear colorless	Conforms	Conforms
Identity	7.8±0.5	-	Conforms
Purity	≥99.0% triphosphate	99.7%	Conforms
Base Purity	≥99.5% deoxynucleoside	-	Conforms
Pyrophosphate	≤0.0003	-	Conforms
λmax	259±2 nm	259 nm	Conforms
A ₂₅₀ /A ₂₆₀	0.80±0.03	0.77	Conforms
A ₂₈₀ /A ₂₆₀	0.15±0.02	0.15	Conforms
Endo-and Exodeoxy-ribonucleases	Not detectable	Not detectable	Conforms
Ribonucleases	Not detectable	Not detectable	Conforms
Functional texting	Conforms	Conforms	Conforms
Human DNA	Not detectable	Detectable	Conforms
E.coli DNA	Not detectable	Not detectable	Conforms

Table 2. Comparison of dCTP full test results

Test items	Detection Indicator	dCTP	
		Bio Basic	Competitor
Concentration	100±3 mM	100.1 mM	Conforms
pH	7.3-7.5	-	Conforms
Appearance	Clear colorless	Conforms	Conforms
Identity	7.8±0.5	-	Conforms
Purity	≥99.0% triphosphate	99.9%	Conforms
Base Purity	≥99.5% deoxynucleoside	-	Conforms
Pyrophosphate	≤0.0003	-	Conforms
λmax	259±2 nm	272 nm	Conforms
A ₂₅₀ /A ₂₆₀	0.82±0.03	0.80	Conforms
A ₂₈₀ /A ₂₆₀	0.98±0.05	0.98	Conforms
Endo-and Exodeoxy-ribonucleases	Not detectable	Not detectable	Conforms
Ribonucleases	Not detectable	Not detectable	Conforms
Functional texting	Conforms	Conforms	Conforms
Human DNA	Not detectable	Detectable	Conforms
E.coli DNA	Not detectable	Not detectable	Conforms

3. Comparison of dNTPs full inspection results

Table 3. Comparison of dGTP full test results

Test items	Detection Indicator	dGTP	
		Bio Basic	Competitor
Concentration	100±3 mM	99.3 mM	Conforms
pH	7.3-7.5	-	Conforms
Appearance	Clear colorless	Conforms	Conforms
Identity	7.8±0.5	-	Conforms
Purity	≥99.0% triphosphate	99.8%	Conforms
Base Purity	≥99.5% deoxynucleoside	-	Conforms
Pyrophosphate	≤0.0003	-	Conforms
λ _{max}	253±2 nm	252 nm	Conforms
A ₂₅₀ /A ₂₆₀	1.15±0.04	1.15	Conforms
A ₂₈₀ /A ₂₆₀	0.66±0.03	0.67	Conforms
Endo-and Exodeoxy-ribonucleases	Not detectable	Not detectable	Conforms
Ribonucleases	Not detectable	Not detectable	Conforms
Functional texting	Conforms	Conforms	Conforms
Human DNA	Not detectable	Detectable	Conforms
E.coli DNA	Not detectable	Not detectable	Conforms

Table 4. Comparison of dTTP full test results

Test items	Detection Indicator	dTTP	
		Bio Basic	Competitor
Concentration	100±3 mM	100.1 mM	Conforms
pH	7.3-7.5	-	Conforms
Appearance	Clear colorless	Conforms	Conforms
Identity	7.8±0.5	-	Conforms
Purity	≥99.0% triphosphate	99.7%	Conforms
Base Purity	≥99.5% deoxynucleoside	-	Conforms
Pyrophosphate	≤0.0003	-	Conforms
λ _{max}	267±2 nm	267nm	Conforms
A ₂₅₀ /A ₂₆₀	0.65±0.03	0.64	Conforms
A ₂₈₀ /A ₂₆₀	0.74±0.05	0.75	Conforms
Endo-and Exodeoxy-ribonucleases	Not detectable	Not detectable	Conforms
Ribonucleases	Not detectable	Not detectable	Conforms
Functional texting	Conforms	Conforms	Conforms
Human DNA	Not detectable	Detectable	Conforms
E.coli DNA	Not detectable	Not detectable	Conforms

Test Conclusion

The efficiency of the test samples in HPLC and qPCR experimental applications is equivalent to that of the control samples.