

## Enzyme dNTPacks for PCR

### One Plus One is More than Two

With the introduction of the new PCR dNTPacks, a new and unique set of products is now available to optimize PCR (Table 1). These new PCR dNTPacks combine thermostable DNA polymerases with all associated buffers, PCR-enhancing components and the PCR-Grade Nucleotide Mix. Specially synthesized and purified by a unique and patented process, these additive-free sodium salt nucleotides (10 mM of each blended in a ready-to-use mix) further enhance the superior performance of our PCR enzymes and enable you to:

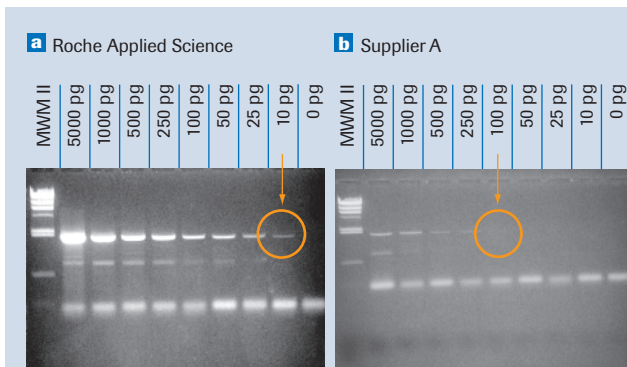
**Avoid false-negative results by increasing PCR and RT-PCR sensitivity:** Detect smaller amounts of template in PCR and RT-PCR than with other suppliers' preparations (Figure 1).

**Rely on dNTPs free of PCR inhibitors commonly found in other suppliers' preparations:** Insist on nucleotides manufactured by a unique synthesis process that does not generate nucleotides with modified bases, tetraphosphates, or pyrophosphate contaminants common in chemically synthesized nucleotide preparations (e.g., Supplier A's tetraphosphate contamination, Figure 2).

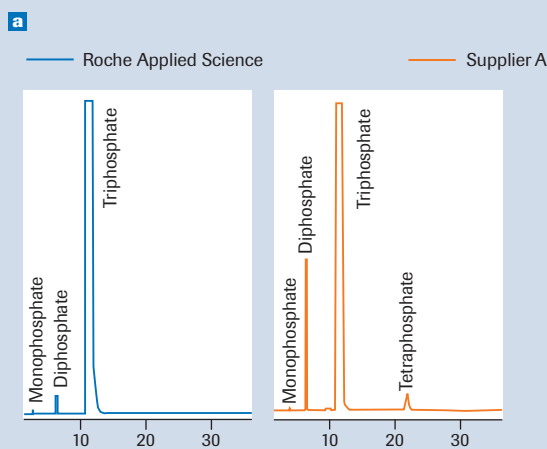
**Improve the performance and consistency of every PCR:** Improve experimental consistency by choosing nucleotides that always exhibit a purity of >99% dNTP and <0.9% NTP as determined by HPLC (Figure 2); they are

**Table 1: Whatever type of PCR you choose, here are your efficient solutions.**

Application	Enzyme dNTPack
Routine PCR	Taq DNA Polymerase, dNTPack
Routine PCR with reduced amount of enzyme	Taq DNA Polymerase (1u/μl), dNTPack
Hot-start routine PCR	FastStart Taq DNA Polymerase, dNTPack
Hot-start High Fidelity PCR	FastStart High Fidelity PCR System, dNTPack
High Yield High Fidelity PCR	Expand High Fidelity PCR System, dNTPack
PCR for difficult templates	GC Rich PCR System, dNTPack
High Fidelity PCR, up to 3 kb	Pwo SuperYield DNA Polymerase, dNTPack
High Fidelity PCR, up to 5 kb	Expand High Fidelity <sup>PLUS</sup> PCR System, dNTPack
Long template PCR, up to 35 kb	Expand 20 kb <sup>PLUS</sup> PCR System, dNTPack

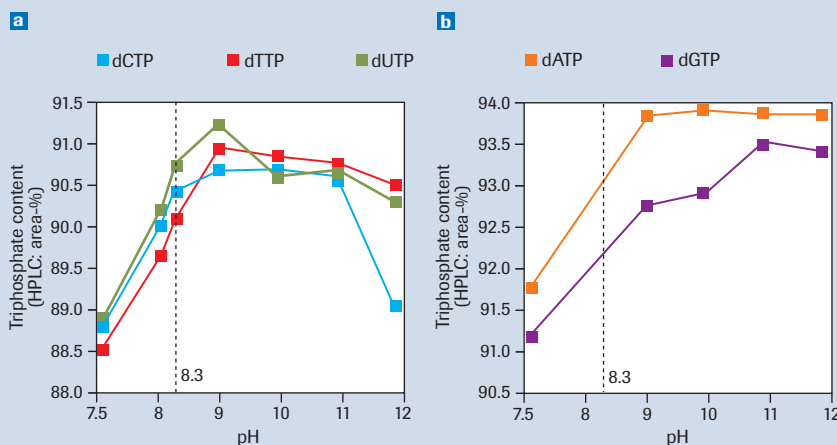


**Figure 1: RT-PCR of a 1849-bp-fragment of the human dystrophin gene.** Varying amounts of human skeletal muscle total RNA were used in the RT-PCR.



**Figure 2: HPLC (RP 18) purity analysis of Roche's PCR grade nucleotides in comparison with Supplier A's nucleotides. (a) dATP and (b) dGTP.**

**Figure 3: PCR-Grade Nucleotides stability experiment.** Nucleotides were stored at 35°C for 28 days at indicated pH values. Stability of purines and pyrimidines is improved when nucleotides are stored at pH 8.3 instead of lower pH storage conditions. Stability tests also indicate enhanced tolerance of increasing pH through normal experimental pH values.



supplied at an optimal pH for improved reaction stability and longer shelf life (Figure 3).

**Increase confidence in your amplifications:** Be assured that these dNTPacks will get the most out of your PCRs. Each lot of each PCR enzyme is function tested with PCR-Grade nucleotides, and each lot of PCR-Grade nucleotides is tested for function in PCR for the absence of RNases, DNases and nicking activity.

With these PCR dNTPacks, you will:

- Achieve better performance by combining a superior enzyme with an unmatched nucleotide mix than you could obtain by buying PCR enzymes and nucleotides from other suppliers.
- Simplify ordering and ensure the simultaneous availability of all PCR components.
- Save money by ordering enzymes and nucleotide mix as a complete package.



Product	Pack Size	Cat. No.
<b>Taq DNA Polymerase, dNTPack</b>	100 U	04 728 866 001
	500 U (2 x 250 U)	04 728 874 001
	1,000 U (4 x 250 U)	04 728 882 001
	2,500 U (10 x 250 U)	04 728 904 001
	5,000 U (20 x 250 U)	04 728 858 001
<b>Taq DNA Polymerase (1U/μl), dNTPack</b>	250 U	04 738 225 001
	1,000 U (4 x 250 U)	04 738 241 001
<b>FastStart Taq DNA Polymerase, dNTPack</b>	100 U	04 738 314 001
	500 U (2 x 250 U)	04 738 357 001
	1,000 U (4 x 250 U)	04 738 381 001
	2,500 U (10 x 250 U)	04 738 403 001
	5,000 U (20 x 250 U)	04 738 420 001
<b>FastStart High Fidelity PCR System, dNTPack</b>	125 U	04 738 284 001
	500 U (2 x 250 U)	04 738 292 001
	2,500 U (10 x 250 U)	04 738 306 001
<b>Expand High Fidelity PCR System, dNTPack</b>	100 U	04 738 250 001
	500 U (2 x 250 U)	04 738 268 001
	2,500 U (10 x 250 U)	04 738 276 001
<b>GC-RICH PCR System, dNTPack</b>	100 U	04 743 784 001
<b>Expand 20 kb<sup>PLUS</sup> PCR System, dNTPack</b>	200 U	04 743 814 001
<b>Pwo SuperYield DNA Polymerase, dNTPack</b>	100 U	04 743 750 001*
	500 U (2 x 250 U)	04 743 776 001*
<b>Expand High Fidelity<sup>PLUS</sup> PCR System, dNTPack</b>	125 U	04 743 725 001
	500 U (2 x 250 U)	04 743 733 001
	2,500 U (10 x 250 U)	04 743 374 001

\*not available in the U.S.