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ID*PROOF*™ DNA Polymerase

Cat #	IDL008 500U
Concentration	1 µl contains 5 units
Description	ID*PROOF*™ is a high performance complex of enzyme with additives. It is used to improve the reliability and yield of conventional primer extension reaction. ID*PROOF*™ has two advantages: (1) high fidelity with an error frequency 1.6 / 10^6 (or 0.0016 / 10^3) during DNA synthesis and (2) ID*PROOF*™ increases the efficiency of polymerization reaction, resulting in a great percentage of extenuation reaction completion up to 10 kb to 30 kb. Optimum temperature is between 72-78º C and remains > 95% active following 1-hour incubation at 95º C.
10X Reaction Buffer	200 mM TrisHCl (pH 8.8) 100 mM KCl 100 mM $(NH_4)_2$ SO_4 20 mM Mg SO_4 1% Triton X-100 1 mg / ml bovine serum albumin (BSA)
Reaction Conditions	Note: All reagents, including ID*PROOF*™, should be mixed immediately before use. DNA synthesis is performed in 100µl of mixture containing 20-200µM dNTPs, 0.3-1 µM Primers, 0.1- 0.250 ng of template DNA, 10 µl of 10 x reaction buffer and 2.5-5 units of ID*PROOF*™. Mix the reaction gently, centrifuge briefly and then overlay with light mineral oil. Initially, denature the reaction by incubating at 95º C for 5 minutes and then cool to 40-68º C for 5 minutes to allow the primers to anneal to the template DNA. It is important to add the reaction components in the following order: 1- H_2O 2. 10x reaction buffer 3- dNTPs 4- DNA template and primers 5- ID*PROOF*™
References	(1) Kaledin, A.S., et al (1980) Biokhimiya, 45, 494 (2) Kaledin, A.S., et al (1981) Biokhimiya, 46, 1576 (3) Kaledin, A.S., et al (1982) Biokhimiya, 47, 1785 (4) Ruttiman, C., et al (1985) Eur J Biochem, 149, 41 (5) Varghese, R., et al (1998) Endocrinology, 139 (11), 4714 (6) Osiowy, C., et al (1998) Microbiology, 36 (11), 3149 (7) Ying-Chi, IP., et al (2000) Endocrinology, 141 (4), 1356 (8) Nadler, S., et al (2000) J. Parasitol., 86 (3), 588 (9) Crack, J., et al (2002) J. Biochem., 269, 933 (10) Pierce, S. K., et al (2007) Symbiosis, 43, 57
Storage	-20º C in a constant temperature freezer. Stable for at least one year. Do not freeze-thaw multiple times.