



Creative Enzymes

Diagnostic Enzymes

KOD PCR Master Mix

Product Information

Cat#	POL-022
Notes	<p>This product is for research use only. Do not use as a diagnostic or clinical testing reagent. Additionally, when using this product, strictly adhere to general laboratory precautions and observe safety measures. When conducting related experiments, consider the potential presence of components in the reagent that may be harmful to humans. Follow the precautions provided with each reagent and the operating instructions for instruments and equipment. Use appropriate protective equipment when necessary.</p>
Storage	Store at -20 °C.
Features	<p>High-Speed PCR Capability When amplifying target fragments under 1 kb, the extension time can be set to 1 sec. For target fragments between 1 and 10 kb, the extension time can be set to 5 sec./1 kb. Compared to conventional reagents, this significantly reduces PCR reaction time. The extension time can also be set longer, enabling amplification of target fragments of various lengths within the same cycle.</p> <p>High fidelity This series exhibits approximately 80 times the fidelity of Taq DNA polymerase. Long target fragments can be amplified rapidly and with high fidelity. Using human genomic DNA as a template, fragments up to 40 kb can be amplified, with the products suitable for diverse applications.</p> <p>Amplification of Crude Samples The addition of extension enhancers improves amplification efficiency. For crude samples containing PCR inhibitors (tissue samples, soil extracts, food, etc.), nucleic acid extraction steps can be omitted, allowing direct amplification of the target gene.</p> <p>Primers and Templates Containing Hypoxanthine and Uracil Conventional high-fidelity PCR enzymes recognize hypoxanthine or uracil as mismatched bases, inhibiting reaction progress. This product employs modified KOD DNA polymerase (UKOD), unaffected by hypoxanthine or uracil, enabling amplification</p>

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of such sequences.

Component	50 mM Tris-HCl (pH 8.0), 0.1 mM EDTA, 1 mM DTT, 50% Glycerol, 0.001% Tween 20, 0.001% Nonidet P-40
Description	This product is a 2× Master Mix for PCR developed based on KOD DNA polymerase, combining high fidelity with high amplification efficiency. Utilizing an enhanced extension enhancer technology, it enables ultra-high-speed PCR reactions: fragments up to 1 kb require only 1 second, extension speed is 5 seconds/kb for 1–10 kb fragments, and 10 seconds/kb for fragments 10 kb and larger. This enzyme exhibits a high reaction success rate, reliably amplifying templates containing dI (deoxyinosine) or dU (deoxyuridine) primers, as well as crude samples. Furthermore, the inclusion of a monoclonal antibody that inhibits enzyme activity and 3'-5' exonuclease activity enables highly specific hot-start PCR.
Applications	PCR
Specification	0.25 mL; 1 mL
Expression System	E.coli
Activity Definitions	Under the activity measurement conditions at 75°C, the enzyme activity required to convert 10 nmoles of total nucleotides into acid-insoluble products within 30 minutes is defined as 1 U.

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