Enzyme Combo LA Cat #: 510

Amount: Klentaq LA: 20 ul (0.05 ul per kb but no more than 0.325 ul/ 25 ul rxn)
OmniTaq LA: 25 ul (0.05- 0.5ul/ 25 ul rxn depending on template and amplicon length)
Omni Klentaq LA: 25 ul (0.05- 0.5ul/ 25 ul rxn depending on template and amplicon length)
Cesium Klentaq AC LA: 5 ul (0.05 ul per kb but no more than 0.325 ul/ 25 ul rxn)
CesiumTaq LA: 5 ul (0.05 ul per kb but no more than 0.325 ul/ 25 ul rxn)

Provided with:
Klentaq Reaction Buffer (1.5 ml) for use with Klentaq LA, Omni Klentaq LA, and Cesium Klentaq AC LA
Taq Mutant Reaction Buffer (1.5 ml) for use with OmniTaq LA and CesiumTaq LA

Shipping conditions: Ambient temperature
Storage conditions: -20°C for enzymes, 4°C for Reaction Buffers
Thermostability: Enzymes retains at least 85% activity after 1 hour at 95°C
Shelf life: At least 1 year from date of receipt under proper storage conditions.

PRODUCT DESCRIPTION:
Our Enzyme Combo LA allows scientists to sample five different Long and Accurate enzymes to determine which one is right for their application. The 10x Klentaq reaction buffer composition is: 500 mM Tris-Cl pH 9.2, 160 mM ammonium sulfate, 0.25% Brij 58, and 35 mM magnesium chloride. The 10x Taq Mutant Reaction Buffer is: 500 mM Tris-Cl pH 8.3, 160 mM ammonium sulfate, 0.25% Brij 58, and 25 mM magnesium chloride. We also offer (upon request) 10x reaction buffers at pH 7.9 for better fidelity.

TYPICAL PCR PROTOCOL for a 25µl reaction:

Reagent	Volume	Final Concentration
10x appropriate Reaction Buffer	2.5 µl	1x
dNTP mix (10 mM each)	0.5 µl	200 µM each
Left Primer	variable	200 nM
Right Primer	variable	200 nM
DNA template†	variable	0.1-100 ng
PCR Enhancer Cocktail (recommended for use with Omni enzymes)*	12.5 µl	1x
Desired enzyme	0.05 – 0.5 µl **	
De-ionized distilled H_2O	Adjust final volume to 25µl	-

† DNA amount depends mostly on genome size and target gene copy number.
* Our PCR Enhancer Cocktails (sold separately) confer additional inhibition resistance when using whole blood, serum, plasma, soil, and some inhibitory foods.
** To determine specific optimal enzyme concentration, we strongly recommend an enzyme titration test for each target. Optimal concentrations start at 0.05 ul / 25 ul rxn when using purified DNA template. Our Omni enzymes require more enzyme (up to 0.5 µl / 25 ul rxn) for use with crude samples containing 5% or more whole blood, plasma or serum, or crude soil extracts, or food matrices. For all enzymes, targets larger than 1 kb require more enzyme (0.05 ul / kb).

CYCLING CONDITIONS:
1. Denaturing: 94° for 2-10 minutes for 1 cycle *
2. Denaturing: 94° for 40-60 seconds
3. Annealing: 50°-68° depending on the specific Tm primers for 40-60 seconds
4. Extension: 68° for 2 min / 1kb target
5. Repeat steps 2-4 for 25-40 cycles

An initial 2 min heating step is recommended for purified DNA samples, and 5-10 min for crude samples containing whole blood, plasma, serum, soil, inhibitory foods, or other PCR inhibitors.

Please visit us on the web at www.klentaq.com for troubleshooting and detailed protocols.