

Hot Start ZipTaq LA

Cat #: HS314



Amount: 125 μ l

Shipping conditions: Ambient temperature

Storage conditions: -20°C

Thermostability: Retains at least 85% activity after 1 hour at 95°C

Expiration: On tube label

PRODUCT DESCRIPTION: Hot Start ZipTaq LA DNA Polymerase is made with aptamer-based technology, enabling room temperature reaction set-up. The aptamer binds to the polymerase at sub-cycling temperatures, inactivating the enzyme and preventing spurious amplification.

ZipTaq is a Taq polymerase with multiple mutations that make it the fastest enzyme in our collection. With the addition of one of our PECs, it can tolerate up to 40% blood in the reaction. The Long-Accurate feature allows for amplification of longer products with higher fidelity and accuracy. LA enzymes are not recommended for use with dUTP.

TYPICAL PCR PROTOCOL for a 25 μ l reaction:

Reagent	Volume	Final Concentration
10x ZipTaq Buffer	2.5 μ l	1x
dNTP mix (10 mM each)	0.5 μ l	200 μ M each
Left Primer	variable	200 nM
Right Primer	variable	200 nM
DNA template†	variable	0.1-100 ng
Hot Start ZipTaq LA	0.05 – 0.25 μ l **	
De-ionized distilled H ₂ O	Adjust final volume to 25 μ l	

† DNA amount depends mostly on genome size and target gene copy number. For templates containing PCR inhibitors, we recommend using one of our PCR Enhancer Cocktails (PEC-1, PEC-1GC, PEC-2, or PEC-2-GC) which are specially formulated for use with whole blood, serum or plasma or 1.3M Betaine, a general PCR enhancer.

** To determine specific optimal enzyme concentration, we strongly recommend an enzyme titration test for each target. A good starting amount of the enzyme per 25 μ l reaction is 0.05 μ l for purified DNA templates and 0.25 μ l for crude samples containing 5-10% whole blood, plasma or serum. Targets larger than 1 kb may require more enzyme.

3-STEP CYCLING CONDITIONS (For 25 μ l reactions):

1. Initial Denature: 95° for 1 minutes for 1 cycle *
2. Denaturing: 94° for 1-5 seconds †
3. Annealing: 50°-68° depending on the specific T_m primers for 1-5 seconds †
4. Extension: 68° for 1-5 seconds/kb target †
5. Repeat steps 2-4 for 25-40 cycles

2-STEP CYCLING CONDITIONS (For 25 μ l reactions):

1. Initial Denature: 95° for 1 minutes for 1 cycle *
2. Denaturing: 94° for 1-5 seconds †
3. Annealing/Extension: 60°-65° depending on the specific T_m primers for 1-5 seconds/kb target †
4. Repeat steps 2 and 3 for 25-40 cycles

* A 2-5 minute initial denaturation is recommended for crude samples containing 5-10% whole blood, plasma or serum.

† Exact number of seconds will depend on the thermocycler and target. We recommend experimentation to determine precise cycling parameters.

Please visit us on the web at www.klentaq.com for data, troubleshooting and related products.