Lyoph-Ready ZipTaq Cat #: GF304

Amount: 1000 x 25 µl reactions (equivalent to 250 µl standard ZipTaq. Volume may be up to 2.5x higher)
Shipping conditions: Ice Pack
Storage conditions: 4°C for 4 months or -20°C for 2 years with up to 10 freeze/thaw cycles
Thermostability: Retains at least 85% activity after 1 hour at 95°C
Expiration: On tube label

PRODUCT DESCRIPTION: A lyoph-ready preparation of ZipTaq DNA Polymerase, 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.

Please allow up to one week additional lead time for lyoph-ready preparations.

TYPICAL PCR PROTOCOL for a 25 µl reaction:

Reagent	Volume	Final Concentration
10x ZipTaq 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
Lyoph-Ready ZipTaq	0.05 – 0.25 µl **	
De-ionized distilled H2O	Adjust final volume to 25 µl	

† 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 µl reaction is 0.05 µl for purified DNA templates and 0.25 µl 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 ul 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 Tm 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 ul 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 Tm 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.