Product information

Product Name: 2X OmniTaq & OmniTaq LA Mix

Catalog No: VN120M, VN121M, VN130M, VN131M

Packing Size: 500 x 25 µl rxns and 250 x 25 µl rxns

Shipping Condition: Ice pack

Storage Condition: -20^{0}C

Product Description:

OmniTaq or **OmniTaq LA Mix** is a ready-to-use 2X mixture of OmniTaq or OmniTaq LA DNA polymerase, salts, magnesium and dNTPs for setting up a trouble-free PCR reaction. All you have to do is to add template, specific primers and water, thereby save time, effort and minimize pipetting error.

2X OmniTaq or **OmniTaq LA Mix** is recommended for all standard PCR applications. The mix is comprised of **OmniTaq** or **OmniTaq LA** DNA polymerase (for amplification of a longer fragment) and a novel buffer system that deliver very high yield PCR amplification over a wide range of PCR templates. It has been developed to give more robust amplification than other commonly-used mixes, allowing it to perform well with challenging templates and in the presence of some PCR inhibitors.

Protocol:

PCR setting for a 25 µl reaction

Reagent	Volume	Final Concentration
2X OmniTaq / OmniTaq LA PCR Mix	12.5 µl	1x
Left Primer	Variable	0.2-0.4 µM
Right Primer	Variable	0.2-0.4 µM
DNA Template†	Variable	0.1-100 ng
De-ionized Distilled H_2O	Adjust final volume to 25 µl	-

†DNA amount depends mostly on genome size and target gene copy number.

Typical Cycling Parameters

Initial Denaturation	95^{0}C	2-5 min (for purified DNA) 5-15 min (for crude samples)
25-40 cycles		
Denaturation	94^{0}C	20 to 30 sec
Annealing	50^{0}C to 68^{0}C	20 to 60 sec
Extension	70^{0}C	1-2 min / 1kb target
Final Extension	70^{0}C	5 min
Hold	4^{0}C	

Troubleshooting guide

No PCR products	Please check your PCR settings to ensure that all necessary components are included in the PCR mix. It's also recommended to perform a gradient annealing temperature experiment to determine the optimal temperature for your specific target. This can help to improve PCR efficiency and specificity, resulting in more reliable and consistent results.
The bands in agarose gel are smear	It's important to check for DNA and primer degradation as degraded DNA or primers can also negatively impact the PCR results.
Low yield of products	If you are using crude samples, it's important to initially denature the samples for 5-15 minutes to ensure proper release of DNA. Additionally, you can try the following strategies to improve PCR performance: • Conduct an enzyme titration experiment to optimize the enzyme concentration for your specific target. • Increase the extension time to ensure complete amplification of the target DNA. • Try a gradient annealing temperature experiment to identify the optimal annealing temperature for your primers. • Consider redesigning your primers if the amplification is not specific or efficient enough.
Non-specific products are observed	If you are observing non-specific products in your PCR reaction, there are several strategies you can try: • Perform a gradient annealing temperature experiment to identify the optimal temperature for your primers, which can help to reduce non-specific products. • Check the GC content of your target sequence. If it's above 65%, it may be necessary to use our PEC-GC or other PCR enhancers. • Evaluate your primers and redesign them if necessary to improve specificity and reduce non-specific products.

Note: This product is for R&D use only

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