

**Product Name:** 2X Taq & Taq LA PCR Mix

**Catalog No:** VN160M, VN161M, VN170M, VN171M

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

**Shipping Condition:** Ice pack

**Storage Condition:** -20°C

**Product Description:**

**Taq** or **Taq LA Mix** is a ready-to-use 2X mixture of Taq or Taq 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 Taq** or **Taq LA PCR Mix** is recommended for all standard PCR applications. The mix is comprised of **Taq DNA polymerase** or **Taq DNA polymerase 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.

**Protocol:**

**PCR setting for a 25 µl reaction**

Reagent	Volume	Final Concentration
2X Taq / Taq 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 <sub>2</sub> O	Adjust final volume to 25 µl	-

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

**Typical Cycling Parameters**

Initial Denaturation	95°C	2-5 min
25-40 cycles		
Denaturation	94°C	20 to 30 sec
Annealing	50°C to 68°C	20 to 60 sec
Extension	70°C	1-2 min / 1kb target
Final Extension	70°C	5 min
Hold	4°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	You can try the following strategies to improve PCR performance: <ul style="list-style-type: none"> <li>Conduct an enzyme titration experiment to optimize the enzyme concentration for your specific target.</li> <li>Increase the extension time to ensure complete amplification of the target DNA.</li> <li>Try a gradient annealing temperature experiment to identify the optimal annealing temperature for your primers.</li> <li>Consider redesigning your primers if the amplification is not specific or efficient enough.</li> </ul>
Non-specific products are observed	If you are observing non-specific products in your PCR reaction, there are several strategies you can try: <ul style="list-style-type: none"> <li>Perform a gradient annealing temperature experiment to identify the optimal temperature for your primers, which can help to reduce non-specific products.</li> <li>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.</li> <li>Evaluate your primers and redesign them if necessary to improve specificity and reduce non-specific products.</li> </ul>

**Note: This product is for R&D use only**