

HelixAmp™ Xtender-Taq Polymerase

Kit Contents

HelixAmp™ Xtender-Taq Polymerase			
Cat. No.	XT250/XT250N (250units)	XT500/XT500N (500units)	XT2500/XT2500N (2,500units)
Xtender-Taq (2.5unit/μl)	0.1ml	0.2ml	0.2ml x 5ea
10x Xtender-Taq Buffer	1ml	1ml x 2ea	1ml x 10ea
dNTP Mix (each 10mM)	None / 0.2ml	None / 0.4ml	None / 0.4ml x 5ea
5x TuneUp™ Solution	None / 0.5ml	None / 0.5ml x 2ea	None / 0.5ml x 10ea
6x Loading Dye	0.5ml	1ml	1ml x 5ea
Blue Box	-	-	1ea
Instructions for Use	1ea	1ea	1ea

Description

HelixAmp™ Xtender-Taq Polymerase is very suitable and ideal for long-ranged PCR up to ~40 kb from isolated viral DNAs or up to ~25 kb from genomic DNAs. This enzyme mixture is an optimized blend of HelixAmp™ Taq Polymerase and HelixAmp™ Power-Pfu DNA Polymerase. Due to the proofreading activity of HelixAmp™ Power-Pfu DNA Polymerase, HelixAmp™ Xtender-Taq Polymerase possesses the greater yield, processivity and fidelity than Taq DNA polymerase alone. The fidelity of HelixAmp™ Xtender-Taq Polymerase is higher approximately 4 times than that of HelixAmp™ Taq Polymerase. The high productivity of HelixAmp™ Xtender-Taq Polymerase is suited to the amplification of a low copy target DNA. The addition of TuneUp™ Solution in the reaction mixture is a simple way to optimize the long-range PCR.

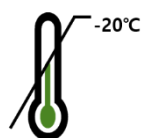
Application

Routine PCR
 Long range PCR
 RT-PCR
 Generation of PCR products for TA cloning

Storage buffer

20mM Tris-HCl (pH 9.0), 100mM KCl,
 0.1mM EDTA, 1mM DTT, stabilizers,
 50% Glycerol

Storage



Store below -20°C

Shelf life



24 months

Concentration

2.5unit/μl

Quality Control

By Nanohelix's ISO 13485-certified quality management system, each lot of **HelixAmp™ Xtender-Taq Polymerase** was tested against predetermined specifications to ensure consistent product quality.

Protocol

※ Although precipitates could be arised in the 10x Buffer, they will not affect the enzyme activities

1. Recommended amount of template DNA.

Human genomic DNA : 10 ~ 100ng

Bacterial genomic DNA : 5 ~ 50ng

Purified plasmid or phage DNA : 1 ~ 5ng

2. Mix following components in a PCR tube.

Components	Volumes (μl)
Template	X μl
10X Xtender-Taq Buffer	5μl
dNTP Mix (each 10mM)	1μl
Forward Primer (10pmoles/μl)	2μl
Reverse Primer (10pmoles/μl)	2μl
5X TuneUp™ Solution	0 ~ 20μl
<i>Xtender-Taq</i>	1.25units
RNase-free Water	to 50μl

※ **TuneUp™ Solution** is an additive altering the binding behavior of primer and template and can help the amplification that do not work well under standard PCR condition. Especially, TuneUp™ Solution can be used for the amplification of problematic template, such as high G+C content and repeat sequence regions. TuneUp™ Solution uses as adding into PCR reaction mixture from 0.5x to 2x.

3. PCR condition

Temperature & time	Cycles
95°C, 2 min	x 1
95°C, 20 sec	x 25 ~ 40
Annealing Temp., 40 sec	
72°C, 1 min/kb (Expected size of product)	
72°C, 5 min	x 1

Annealing Temp. = $T_m - (4 \sim 6^\circ\text{C})$

T_m (Melting Temp.) = $[4^\circ\text{C} \times (\text{G} + \text{C})] + [2^\circ\text{C} \times (\text{A} + \text{T})]$

Products

Cat. No.	Products	Size
XT250	HelixAmp™ Xtender-Taq Polymerase	250units
XT250N	HelixAmp™ Xtender-Taq Polymerase (with dNTP)	250units
XT500	HelixAmp™ Xtender-Taq Polymerase	500units
XT500N	HelixAmp™ Xtender-Taq Polymerase (with dNTP)	500units
XT2500	HelixAmp™ Xtender-Taq Polymerase	2,500units
XT2500N	HelixAmp™ Xtender-Taq Polymerase (with dNTP)	2,500units