



# Cloning Guidelines

Twist Bioscience’s Gene Fragments are double-stranded DNA, 300 to 1800 base pairs in length. These high-quality fragments come with unique 5’ and 3’ adapter sequences. The adapters sequences are:



## FEATURES

- Industry-leading error rates (1:3,000bp)
- 0.3 to 1.8kb
- Compatible with several downstream cloning strategies

## Cloning

Design your fragments to include internal cloning sites.



Design your fragments to include internal restriction enzyme sites (pink)

### A. RESTRICTION ENZYME CLONING



For Restriction Enzyme cloning, add the flanking sites (pink) to dsDNA fragments (BsaI, a type IIS enzyme, in this example)

### B. GATEWAY® CLONING



For Gateway® cloning, add the flanking attB sites (pink) in your dsDNA fragment design

## PCR Amplification

Flexibility is further supported through easy removal of the adapter sequences, allowing streamlined customization of workflow.

### A. INTERNAL PRIMERS TO REMOVE ADAPTER SEQUENCE

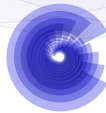


Pink arrows highlight PCR priming sites

### B. INTERNAL PRIMERS TO ADD HOMOLGY



Add homology tails to PCR primers for downstream seamless cloning



# Don't Want to Clone?

We Offer Clonal Genes at 9¢/bp

Twist Bioscience's Clonal Genes offers 100% NGS verification on the gene sequence, ensuring what you get is exactly how you design it.

Choose between a variety of Twist cloning and expression vectors. Have your own vector? Not a problem, Twist can synthesize your gene and clone it into your vector of choice.

Simply visit the easy-to-use online ordering platform at **ecommerce.twistdna.com** and get a quote in 30 seconds.

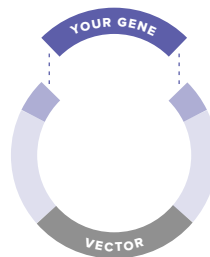
## HOW TO ORDER



① ORDER ONLINE



② TWIST SYNTHESIZES GENE



③ YOUR GENE CLONED AND NGS-VERIFIED

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