Twist Vectors

CLONAL GENES SPECIFICATIONS

Product
Synthetic DNA cloned into a Twist Cloning or Expression Vector

Insert Size
0.3–5.0 kb

Quality Control
100% NGS-verified gene sequences

Turnaround Time
10 to 15 business days

KEY BENEFITS

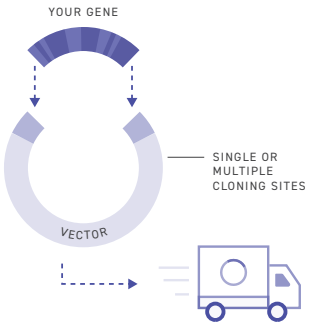
- **Fast Turnaround**
  Save time by using Twist Vectors, which require no onboarding
- **Diverse Selection**
  Select the best vector for specific cloning and protein expression needs
- **Simple Online Ordering**
  Easy-to-use online ordering portal allows vector selection for clonal genes

Twist Bioscience synthesizes high-quality, NGS-verified custom genes at a cost and scale that are otherwise unavailable. For researchers wanting to replicate their synthetic genes or use them in expression studies, Twist provides the option of delivery in a diverse selection of cloning and expression vectors through a convenient online ordering platform.

Convenient ordering of cloned genes into a diverse selection of vectors

1
Upload gene sequences to Twist's Online Ordering Platform.

2
Genes are synthesized utilizing Twist's proprietary, highly-scalable technology.



3
Synthetic genes are then cloned into Twist Cloning or Expression Vectors and shipped.

READY TO ORDER?
Contact sales@twistbioscience.com or order online at twistbioscience.com/shop

EXPRESSION VECTORS

MAMMALIAN EXPRESSION*

pTwist

CMV

These human cytomegalovirus (CMV) promoter-driven vectors contain an ampicillin resistance cassette for growth and maintenance in *E. coli* and are designed for high levels of transient expression in mammalian cells. Transcriptional termination is via a SV40 poly-adenylation signal 3' of the multiple cloning site. Select vectors also contain mammalian selectable markers, and others offer options for enhanced levels of expression.

SPECIFIC VECTORS

CMV

CMV BetaGlobin
- Beta globin intron enhanced transgene expression

CMV OriP
- OriP for higher levels of protein expression in EBNA-transformed HEK-293 cells

CMV Hygro
- Hygromycin for mammalian selection

CMV Puro
- Puromycin for mammalian selection

CMV BetaGlobin WPRE Neo
- Beta globin intron for enhanced transgene expression
- WPRE sequence for enhanced transgene expression
- G418/Neomycin for mammalian selection

pTwist

EF1 Alpha

These vectors offer medium-level transient mammalian expression driven by the human elongation factor alpha (EF1 Alpha) promoter. Ampicillin resistance cassettes allow vector growth and maintenance in *E. coli.* Transcriptional termination is via a SV40 poly-adenylation signal 3' of the multiple cloning site.

SPECIFIC VECTORS

EF1 Alpha

EF1 Alpha Puro
- Puromycin resistance gene for mammalian selection

BACTERIAL EXPRESSION*

pET

These T7 RNA polymerase-driven transcription vectors enable expression in *E. coli*. Lacking ribosome binding sites and ATG start codons, they are designed for protein expression from translation signals within the cloned DNA. The vectors contain a lac repressor / lac operator to inhibit transcription in *E. coli*, and expression can be induced by lactose or isopropyl-β-D-thiogalactopyranoside (IPTG). Production of virions containing single-stranded DNA correspond to the coding strand upon co-transfection with helper phage.

SPECIFIC VECTORS

pET-21(+)
- C-terminal His·Tag® sequence
- Ampicillin resistance gene

pET-24(+)
- C-terminal His·Tag® sequence
- Kanamycin resistance gene

pET-28a(+)
- N-terminal and optional C-terminal His·Tag® sequence
- Internal T7·Tag® sequence
- Thrombin cleavage site
- Kanamycin resistance gene

pET-29b(+)
- N-terminal S·Tag sequence
- C-terminal His·Tag® sequence
- Thrombin cleavage site
- Kanamycin resistance gene

VIRAL EXPRESSION*

pTwist

Lenti SFFV

A lentivirus expression plasmid can be used for the stable integration of genes into both dividing and non-dividing cells. The plasmid is based on the commonly used pCCL lentivirus backbone. The SFFV promoter is present to drives transgene expression. This third-generation lentivirus can be packaged using either a second- or third-generation packaging mix. These contain ampicillin resistance markers for growth and maintenance in *E. coli*.

SPECIFIC VECTORS

Lenti SFFV

Lenti SFFV Puro WPRE
- Contains a gene encoding the antibiotic puromycin for mammalian selection whose expression is driven by the SSFV promoter via an EMCV IRES
- WPRE sequence for enhanced gene expression

CLONING VECTORS

pTwist

High Copy Vectors

These vectors contain pMB1 origins of replication. Twist forward and reverse primers flank the insertion site for easy amplification, and M13 forward and reverse priming sites are included to enable gene sequencing.

SPECIFIC VECTORS

Amp High Copy
- Ampicillin resistance marker

Kan High Copy
- Kanamycin resistance marker

Chlor High Copy
- Chloramphenicol resistance marker

pTwist

Medium Copy Vectors

These vectors feature p15A origins of replication. Twist forward and reverse primers flank the insertion site for easy amplification, and M13 forward and reverse priming sites are included to enable gene sequencing.

SPECIFIC VECTORS

Amp Medium Copy
- Ampicillin resistance marker

Kan Medium Copy
- Kanamycin resistance marker

Chlor Medium Copy
- Chloramphenicol resistance marker

pTwist

ENTR

Use these vectors for rapid cloning of one or more genes into virtually any protein expression system using Gateway® Cloning Technology. Once you have an entry clone, you can recombine your gene of interest into a variety of expression vectors adapted for use with Gateway Technology. The gene synthesis product is cloned between the attL1 & attL2 recombination sites. All pTwist ENTR vectors contain a pMB1 origin of replication for high plasmid yields and M13 forward and reverse priming sites to enable gene sequencing.

SPECIFIC VECTORS

ENTR

ENTR Kozak
- For enhanced expression in mammalian systems
- Cloning site is designed in the appropriate reading frame to work with both N- and C-terminal fusion tags in the most popular Gateway mammalian expression vectors

OXFORD GENETICS
BIOLOGY ENGINEERED

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