

# Twist Gene Fragments

## Synthesizing Gene Fragments with you in mind

DNA is the foundation of molecular biology experiments. Unfortunately, time and money are often wasted on preparing poor quality DNA. By partnering with Twist Bioscience, you can be confident that the Gene Fragments you receive will be high quality and consist of your desired sequences for seamless integration into your experimental workflow without the hefty price tag. All of our Gene Fragments are synthesized with an average error rate of 1:7500, which reduces the amount of clones you have to screen, thereby improving cloning efficiency and success. To ensure your research isn't slowed down, your Twist Gene Fragments are shipped to you in as few as 3 business days.\*

We use a highly precise, high-throughput silicon-based gene synthesis platform to synthesize high quality Gene Fragments quickly, reliably, and affordably, just for you. Our Gene Fragments have industry leading error rates, which reduces the amount of colony screening you must perform and as a result significantly accelerates your research.

### You provide your desired sequences, Twist does the rest!



### SPECIFICATIONS

- Double-stranded DNA
- Length: 0.3 – 1.8 kb
- Scale: 100 ng – 1 µg
- Turnaround time:
  - With adapters, 2-4 business days
  - Without adapters, 4-8 business days
- Starting at 7¢ (USD) per bp

### KEY BENEFITS

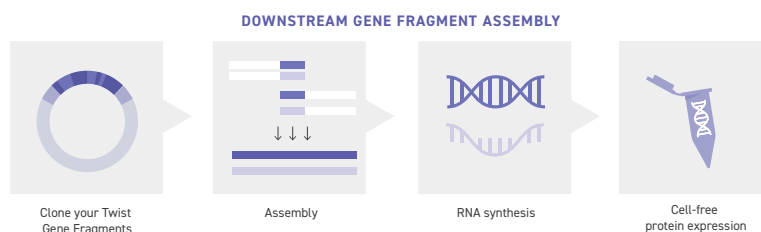
- Shipped in as few as 3 days\*
- High quality with low price point
- Industry leading error rate
- Compatible with most downstream cloning methods
- Online platform that enables sequence optimization and order placement

### CUSTOMIZABLE

- No order limit
- Available with and without adapters
- Easily assembled into larger genes or pathways

## Easily integrated into a wide range of workflows

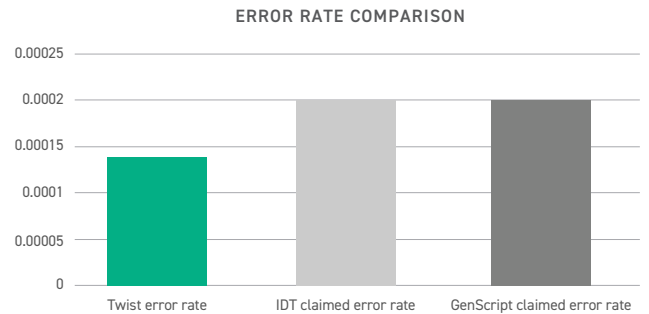
Our Gene Fragments begin as oligonucleotides synthesized on our semiconductor based silicon platform. The oligonucleotides are then annealed together, PCR amplified to produce a double stranded DNA fragment and error-corrected through an enzymatic reaction. The resulting Gene Fragment is universally compatible with various downstream cloning methods, allowing for seamless integration into a wide array of applications. Whether utilized in protein engineering, antibody discovery, pathway engineering, functional genomics, diagnostic assays, or other fields, the cloned end product or fragment can be readily employed to drive transformative outcomes.



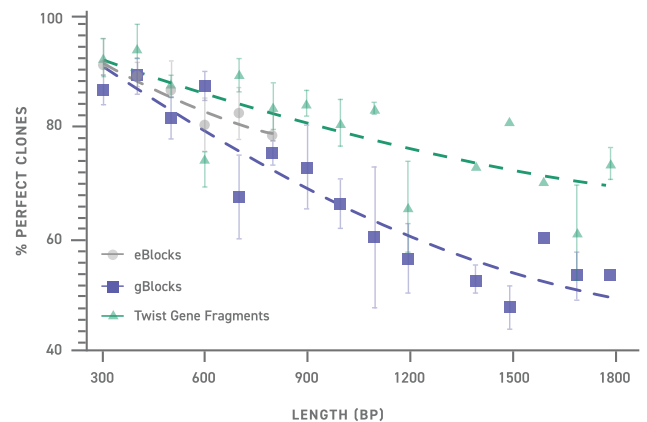
## Proven quality, with our industry leading error rate

Twist Gene fragment demonstrates a 50% superior error rate compared to other major suppliers, as illustrated in the figure to the right. Low error rates translate into fewer colonies that need to be picked and screened to find your perfect gene.

To assess the quality of Twist Gene Fragments, identical dsDNA fragments with a wide variety of gene lengths from 300 bp to 1,800 bp, were ordered from both Twist and Integrated DNA Technologies, Inc. (IDT). Upon receipt of the fragments from each company, the DNA was cloned into pTwist Amp High Copy plasmid, transformed into DH10B-like cells, and plated onto LB Agar Plates with 100 µg/mL carbenicillin. After overnight incubation at 37° C, 20 colonies were selected for each gene and sequence-verified using Next-generation Sequencing. The graph bottom right captures a direct comparison of perfect clone percentages for three gene products. Data was generated using a set of 63 sequences to reflect the diversity of gene lengths required for various real-world synthetic biology applications. Our data highlights that Twist Gene Fragments consistently deliver the highest percentage of flawless clones, offering invaluable time and cost savings for your research endeavors.\*



Twist error rate derived from customer orders, 2023. Refer to GenScript and IDT for respective error rates.



\*Terms and Conditions: Turn around time is subject to change based on gene length and sequence complexity. Gene Fragments with adapters range from 2-4 business days and Gene Fragments without adapters range from 4-8 business days following order submission. For designs involving the assembly of more than three Gene Fragments, we recommend placing a Clonal Genes order instead, to mitigate potential complications arising from reduced efficiency.

### MADE EASY TO ORDER IN 3 STEPS

- 1 Register or login on our [eCommerce site](#)
- 2 Submit your fully customized sequences
- 3 Twist will verify, synthesize, and ship your high quality genes fragments

**YOU DESIGN IT, WE BUILD IT.** Get in touch at [sales@twistbioscience.com](mailto:sales@twistbioscience.com) or learn more at [twistbioscience.com](https://www.twistbioscience.com)

These products are subject to certain use restrictions as set forth in Twist's Supply Terms and Conditions [www.twistbioscience.com/supply-terms-and-conditions](https://www.twistbioscience.com/supply-terms-and-conditions)