CycloneSEQ | MGI

CycloneSEQ-WT02

Nanopore Gene Sequencer

Nano Gates to the Macro Cosmos

For Research Use Only

Maximizing Your Research Potential

CycloneSEQ-WT02, a nanopore gene sequencer launched in 2024, features a dual flow cell design that enables independent operation. With flexible throughput options and exceptional capabilities such as **broad coverage**, **rapid sequencing**, and **flexible testing**, it meets the diverse needs across various applications, such as microbial genome research, microbial metagenome sequencing, amplicon-based microbial detection, targeted disease testing, small whole-genome assembly and whole transcriptome sequencing, etc.

Broad Coverage

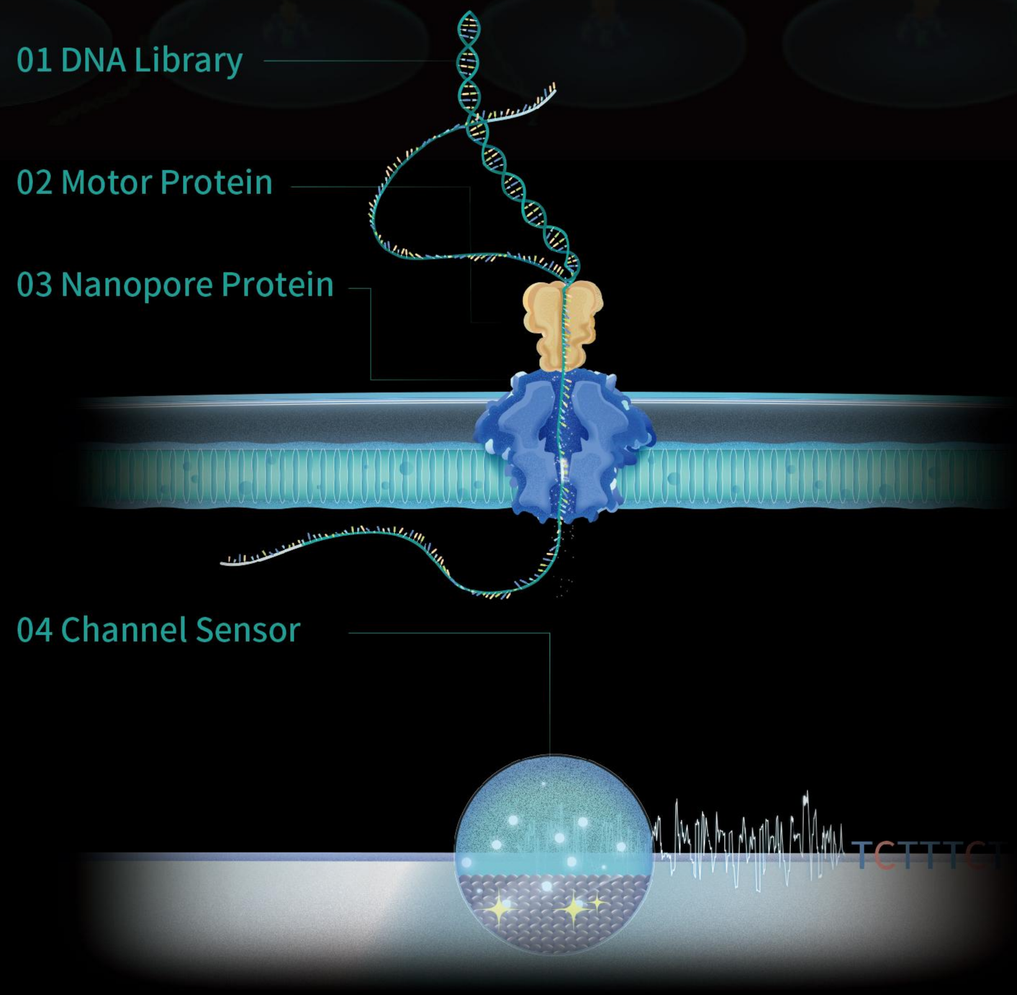
Rapid Sequencing

Flexible Testing

The Key to the Genome's Treasures

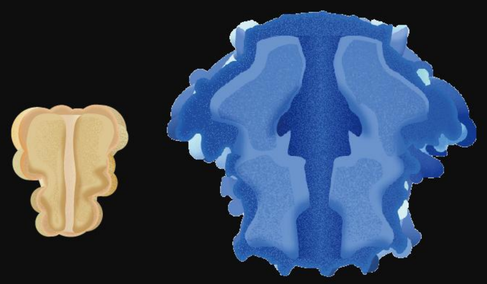
Sequencing Principle

During the CycloneSEQ-WT02 sequencing process, the **DNA library** molecules linked to the **motor protein** are drawn to the vicinity of the **nanopore protein** embedded in the membrane under the influence of electric field forces, where they are captured by the nanopore protein. Meanwhile, motor proteins situated near the nanopore proteins entrance, steadily and rapidly unwinding the DNA. This allows the DNA libraries to pass through the nanopore as a single strand. Different DNA bases and their arrangement impede the current to varying degrees, triggering the current fluctuations. The **channel sensor** captures these current fluctuation data and transmits them to the computer system, where basecalling algorithms parse the information to achieve real-time and accurate gene sequencing.



Tech Advances, Powering Ahead

Key Proteins



Mined from Deep-Sea Metagenomic Database

Engineered for Protein Design Innovation

Robust Stability, Powerful Capture, High Speed

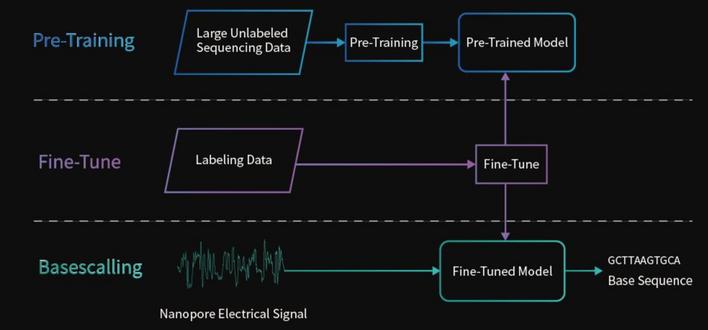
Sequencing Flow Cell

High-Density Array

Ultra-Precise pA-Level Current Detection

High Density, Low Noise, Durable Fuel Chemistry

Basecalling Algorithm



Optimization of Deep Learning Algorithms in the ASR Field

Large-scale Distributed Training on Huge Amounts of Data

Cutting-Edge, High Precision, High Performance

Performance Parameter

Number of Nanopore Proteins

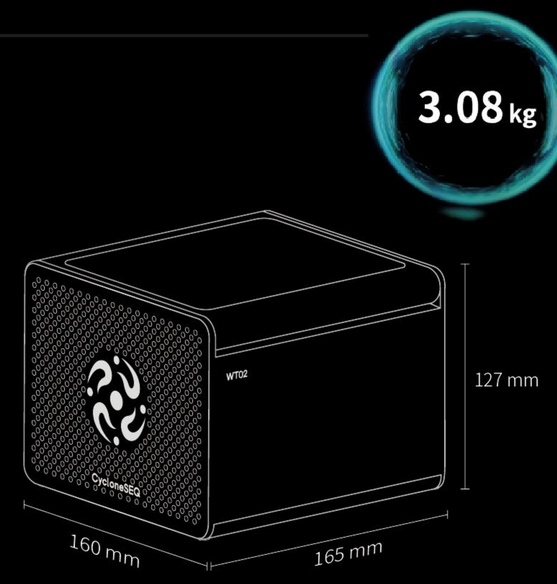
4096 / Flow Cell

Sequencing Speed

350-420 nt / s

Maximum Throughput / Flow Cell (in Real Laboratory Experiments)

50 Gb



Read Length

100 bp – Mbp Level

Single Time Accuracy

97%

Consensus Accuracy

99.99% (40X)

Sequencing Acquisition Time

Real-time

Sequencing Time

10 mins–72 hrs

Data Output Rate / Flow Cell

10 Mb / min

Diverse Applications

CycloneSEQ-WT02 has broad application prospects and potential in the field of life sciences, empowering different application scenarios.

Ordering Information

Product Name (Model)	Cat. no
Nanopore Gene Sequencer (CycloneSEQ-WT02)	H900-000005-00
Nanopore Gene Sequencer Bundle 2 (CycloneSEQ-WT02 Nanopore Gene Sequencer +Workstation+Keyboard+Mouse+Display screen)	H900-000003-00
WT Sequencing Flow Cell (2 pcs/set)	H930-000002-00
CycloneSEQ Universal Library Prep Set (24 RXN)	H940-000013
CycloneSEQ WT Sequencing Kit (6 T)	H940-000016
CycloneSEQ WT Flow Cell Wash Kit (6 T)	H940-000017

Unless otherwise informed, those products are only available in seleated countries.

Manufacturer

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