

CLM Polymerase

Market-leading Performance
with Minimized PCR Bias

Key Features

- Market-leading performance
- Optimized performance for NGS
- High yield and accuracy
- Minimized PCR bias

CLM Polymerase

The role of polymerase is critical in Next Generation Sequencing (NGS) process. Due to the complexity of the library, high performance polymerase is obligatory for high uniformity and yields. As an innovative leader in NGS industry, Celemics has been providing CLM polymerase with market-leading performance, exhibiting high yield and accuracy with minimized PCR bias. The high-fidelity CLM polymerase will always ensure a low PCR error rate with high degree of accuracy in the replication of DNA of interest. The product includes all reaction components for PCR with easy-to-follow protocols.



Performance Data

Amplified DNA Yield | Reliable amplification from low DNA amount

The ability of CLM Polymerase to efficiently amplify the DNA libraries depending on the input amount have been tested and compared with other major competitor brands in the market.

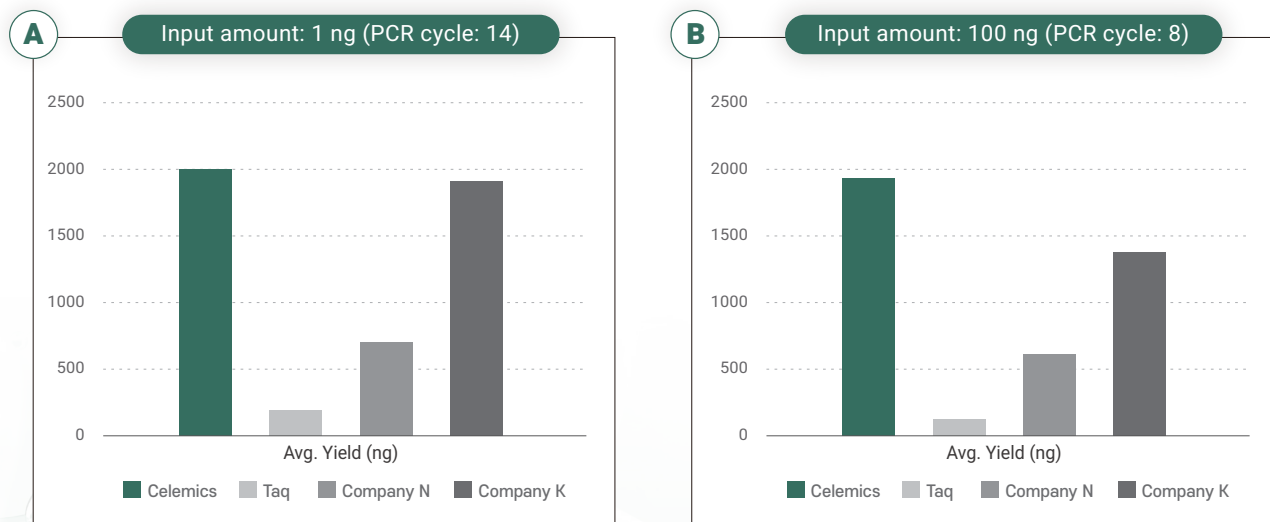


Figure 1A. refers to the comparison of amplification efficiency of input DNA library amount of 1 ng. The average yield of DNA libraries after 14 cycles for Celemics was 1,997 ng, which is the highest among the comparing groups, Company K, Company N and Taq polymerase.

Figure 1B. shows comparison graph with DNA library input amount of 100 ng. The average yield of Celemics' CLM polymerase was the highest (1,918 ng) compared to other competitors' enzymes, showing the robust amplification efficiency of chemically optimized Celemics' polymerase.

Performance Data

Low PCR Error Rate with minimized indels and substitutions

The highly engineered and optimized reagent condition of CLM Polymerase ensures lower PCR error rates compared to other parties.

Table 1. Calculated PCR error rate for CLM Polymerase and other competitor products.
Of the comparing groups, Celemics' CLM Polymerase showed the lowest error ratio of 0.109%.

Polymerase	Sub_ratio	Indel_ratio	Err_ratio
Celemics	0.068%	0.041%	0.109%
Company K	0.068%	0.048%	0.116%
Taq	0.112%	0.040%	0.153%

High Reproducibility

CLM polymerase ensures consistent and reproducible amplification results regardless of input amount or sample types.

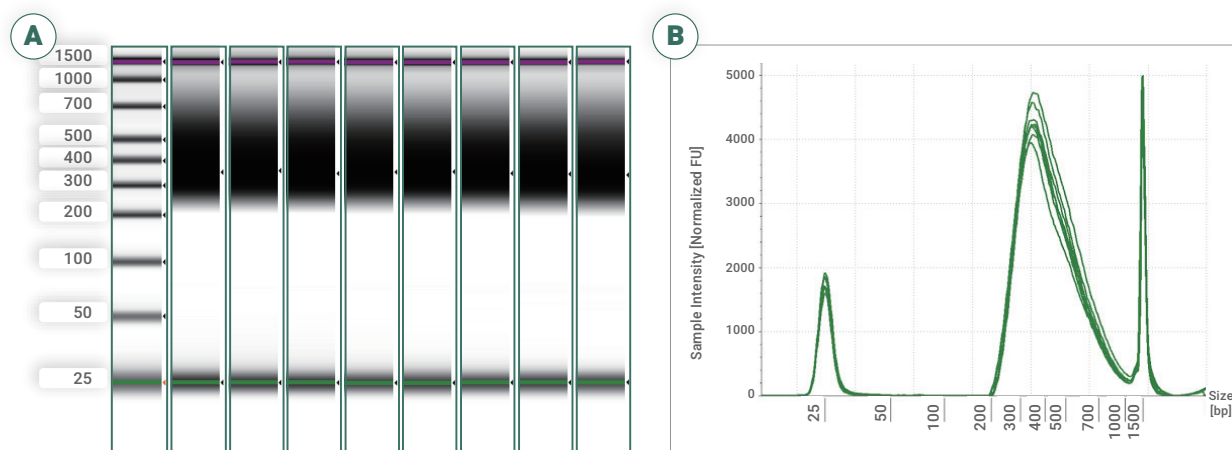


Figure 2. Polymerase reproducibility data. The concentration of 8 replicates of 100 ng of input DNA showed reproducible result. A) represents the gel images of 8 replicates and B) is the electropherogram of those 8 replicates. Total of 6 PCR cycles were performed and bead ratio of 1x was chosen for purification. Overall yields were greater than 1500 ng for all samples.

Uniform amplification in both high-GC and low-GC regions

CLM Polymerase ensures uniform amplification across both high-GC and low-GC regions. It minimizes coverage bias even in extreme GC content genomes, providing researchers with stable and reliable sequencing data.

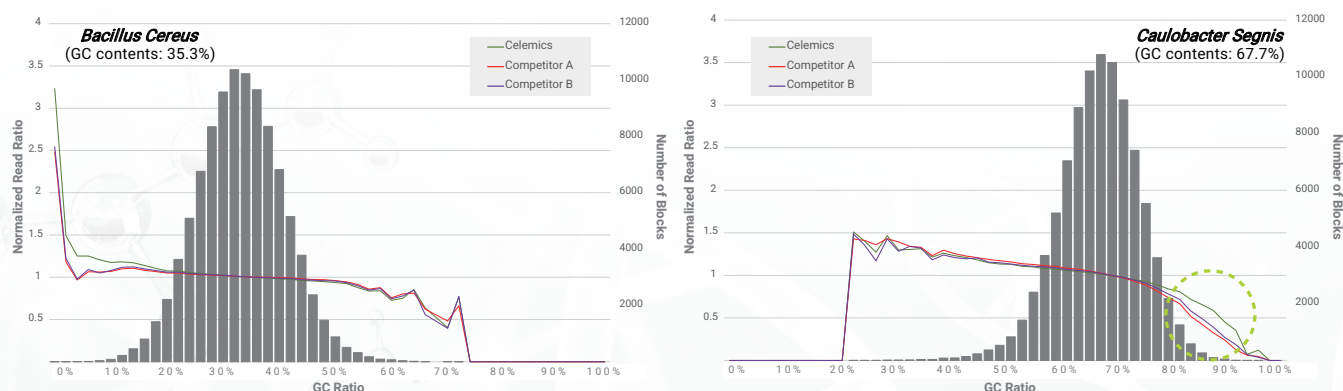


Figure 3. The amplification of high-GC and low-GC region using CLM Polymerase. The amplification capacity was tested using bacterial samples with known GC contents. The results show that CLM Polymerase is an optimized, high-quality enzyme that enables steady and uniform amplification without PCR bias for both high-GC and low-GC regions. Moreover, it maintains stable sequencing depth even in extreme high-GC regions*, whereas competitor products exhibit a sharp decline. *>90%, highlighted with a light green dotted circle

Performance Data

Sequencing Data Comparison

The captured data shows that Celemics' CLM Polymerase can outperform other competitors' enzymes by yielding the highest on-target ratio and coverage as well as superior fold-80 base penalty among the comparison group.

Table 2. Comparison of sequencing data.

Sample Name	On-target ratio	Fold 80 base penalty	Mean depth over target region	1x coverage	20x coverage
Celemics	86.38%	1.98	602.74	100.00%	99.95%
Taq	80.93%	2.62	570.43	99.96%	99.47%
Company N	81.12%	2.33	597.19	99.99%	99.82%
Company K	77.97%	1.80	540.94	100.00%	99.94%

100 ng of NA12878 genomic DNA (Coriell Institute, USA) was used to prepare DNA libraries then the libraries were amplified using CLM Polymerase along with other three vendors'. For all library preparation and target enrichment process, Celemics Library Preparation Kit and Target Enrichment Kit were used and sequenced on Illumina platform.

Order Information | CLM Polymerase

Cat. No.	Product	Product Unit
CMPF-M-500	CLM Polymerase	5 mL

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