

# Celemics Library Preparation Kit (LP / EP)

Optimized for High-efficiency  
Celemics Panels

## Key Features

- Includes optimized set of enzymes needed for high-efficiency library preparation
- Easy-to-follow protocol
- Robust and reproducible NGS libraries
- Flexible integration with NGS panels from various vendors

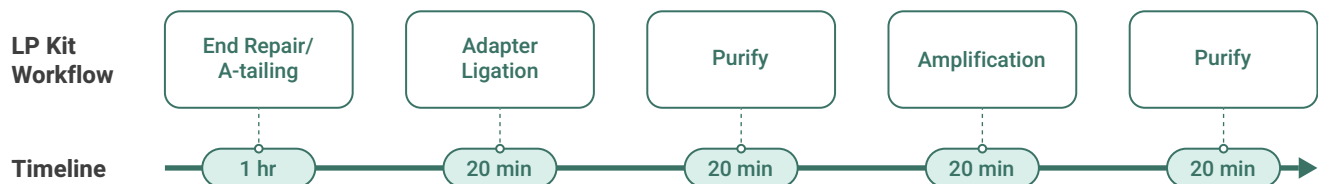
## Celemics Library Preparation Kit

All Celemics library preparation kits are highly optimized for efficient usage with Celemics' ready-to-use or customized panels. Both the Standard (LP) and Enzymatic Preparation (EP) kits include end-repair and A-tailing enzyme mix as well index primers, adapters and buffers.



### Celemics Library Preparation Kit - LP

For standard method of Library Preparation Kit (denoted as LP Kit), customers can use ultra-sonication devices or fragmentase for DNA fragmentation.



#### Reproducibility Data using LP Kit

| No. | Input amt (ng) | PCR cycle | Conc. (ng/uL) | Yield (ng) |
|-----|----------------|-----------|---------------|------------|
| 1   | 100            | 8         | 55.6          | 1668       |
| 2   | 100            | 8         | 56.2          | 1686       |
| 3   | 100            | 8         | 54.4          | 1632       |
| 4   | 100            | 8         | 51.3          | 1539       |
| 5   | 100            | 8         | 51.6          | 1548       |
| 6   | 100            | 8         | 44.6          | 1338       |

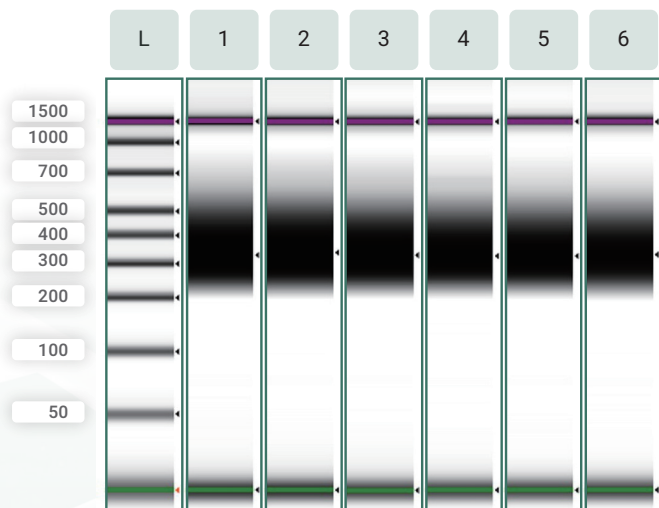


Table 1 & Figure 1. Reproducibility of Celemics' Library Preparation Kit (LP). 100 ng input of NA12878 with Celemics LP kit showed highly reproducible result, relatively similar concentration and the total yield, for all 6 of replicated samples.

# Celemics Library Preparation Kit - LP

## Performance Comparison Data

The amplified yield of DNA libraries using Celemics' LP kit was compared with other major vendors. The results showed that Celemics' LP kit presented the highest yield with robustness when compared with other vendors' kits, regardless of the input DNA amount.

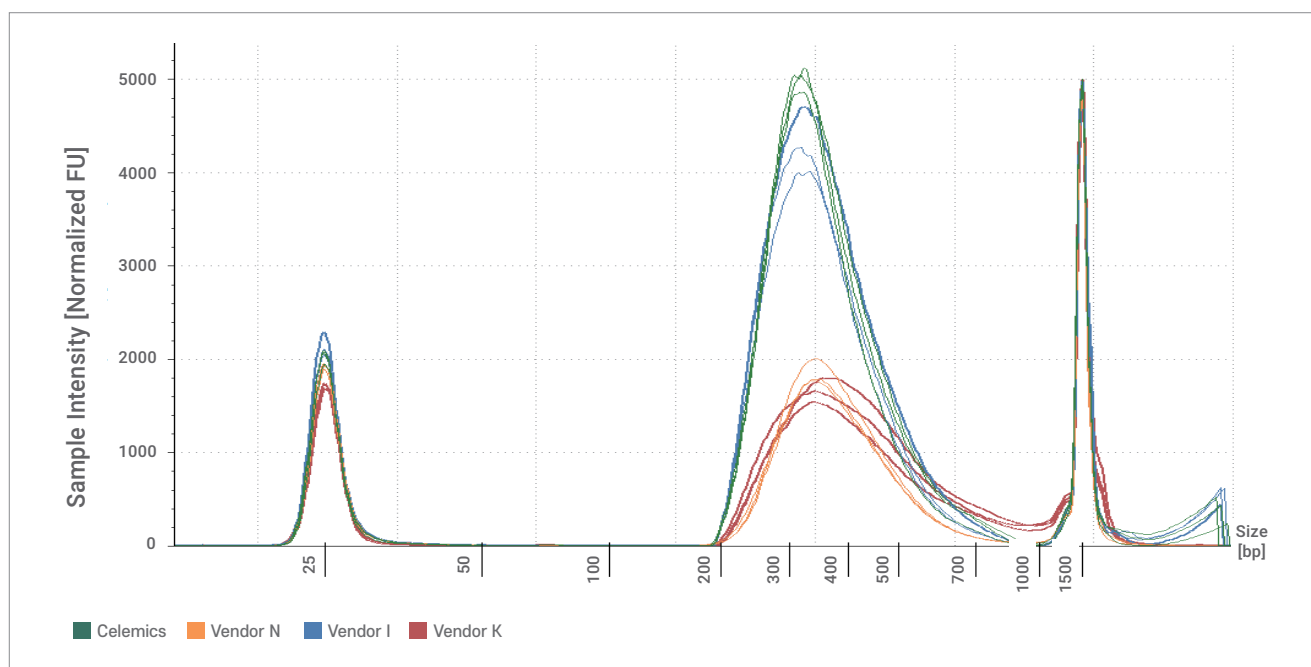


Figure 2. Reproducibility and overall yield for Celemics LP Kit was compared with three other vendors. For all library kits, 10 ng of DNA were equally used and the result shows that Celemics LP kit provides the highest yield and reproducible data compared to other vendors kits.

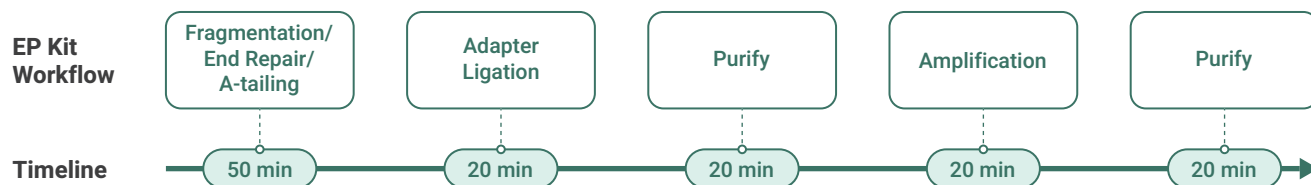
## Sequencing Performance Matrix

|                    | Duplication ratio | On-target ratio | Fold 80 base penalty | Mean depth over target region | 1x coverage    | 10x coverage  | 20x coverage  | 50x coverage  | 100x coverage |
|--------------------|-------------------|-----------------|----------------------|-------------------------------|----------------|---------------|---------------|---------------|---------------|
| <b>Celemics LP</b> | <b>3.83%</b>      | <b>86.85%</b>   | <b>1.44</b>          | <b>478.48</b>                 | <b>100.00%</b> | <b>99.98%</b> | <b>99.94%</b> | <b>99.76%</b> | <b>99.12%</b> |
| <b>Vendor I</b>    | 4.63%             | 84.73%          | 1.49                 | 469.42                        | 100.00%        | 99.97%        | 99.92%        | 99.69%        | 98.62%        |

Table 2. Sequencing performance comparison. The prepared libraries using Celemics' LP kit and Vendor I were sequenced for performance comparison. The overall sequencing quality and result of Celemics LP kit outperformed those of Vendor I.

## Celemics Library Preparation Kit - EP

The Enzymatic Library Preparation Kit (denoted as EP Kit) includes all set of reagents needed from enzymatic fragmentation to ER/A in a single reaction enabling convenient workflow. EP kit offers effortless workflow with minimal risk of DNA loss.



### Reproducibility Data using EP Kit

| No. | Input amt (ng) | PCR cycle | Conc. (ng/uL) | Yield (ng) |
|-----|----------------|-----------|---------------|------------|
| 1   | 100            | 6         | 61.0          | 1830       |
| 2   | 100            | 6         | 56.4          | 1692       |
| 3   | 100            | 6         | 61.5          | 1845       |
| 4   | 100            | 6         | 56.7          | 1701       |
| 5   | 100            | 6         | 57.1          | 1713       |
| 6   | 100            | 6         | 59.6          | 1788       |
| 7   | 100            | 6         | 60.8          | 1824       |
| 8   | 100            | 6         | 59.5          | 1785       |

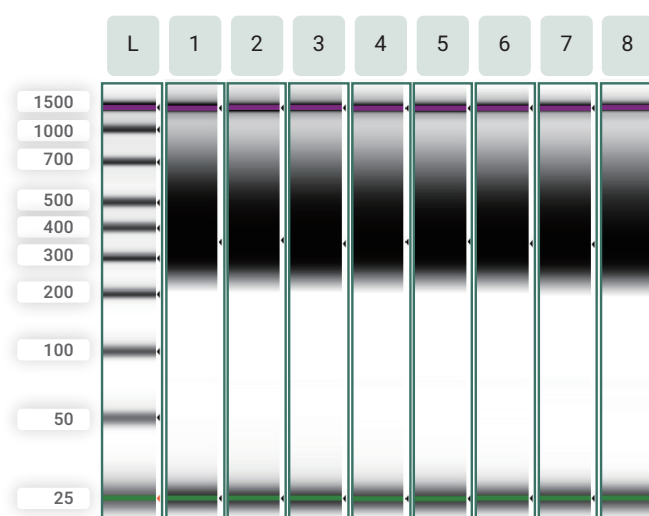


Table 2 & Figure 3. Reproducibility of Celemics' Library Preparation Kit (EP). 100 ng input of NA12878 with Celemics EP kit showed highly reproducible result, relatively similar concentration and the total yield, for all 8 of replicated samples.

### Performance Comparison Data

The amplified yield of DNA libraries using Celemics' EP kit was compared with other major vendors. The results showed that Celemics' EP kit presented the highest yield with robustness when compared with other vendors' kits, regardless of the input DNA amount.

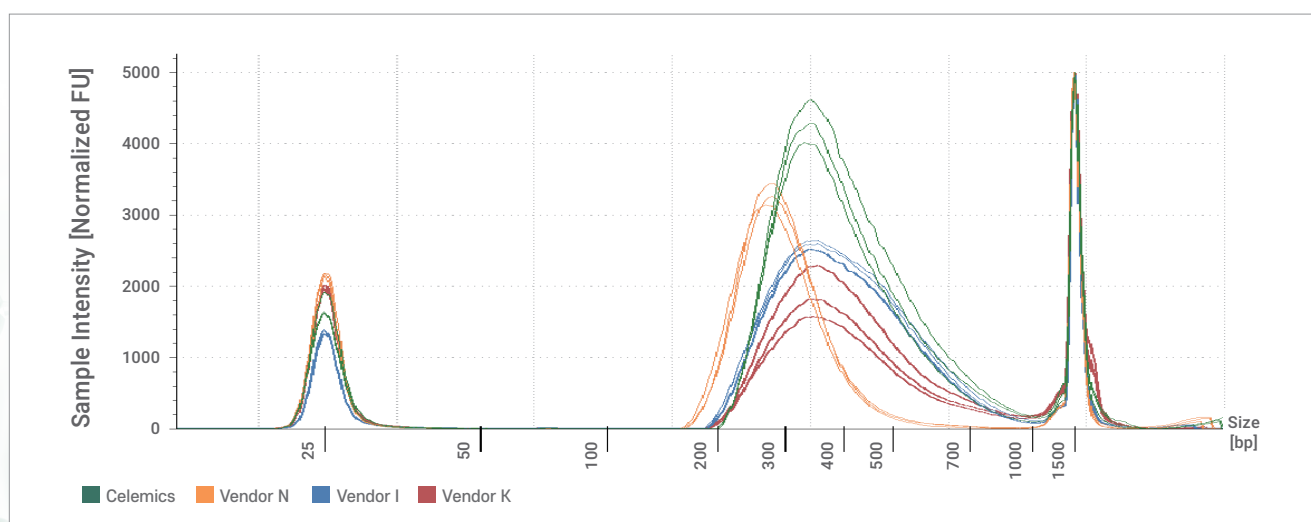


Figure 4. Reproducibility and overall yield for Celemics EP Kit was compared with three other vendors. For all library kits, 100 ng of DNA were equally used and the result shows that Celemics EP kit provides the highest yield and reproducible data compared to other vendors kits.

## Celemics Library Preparation Kit - EP

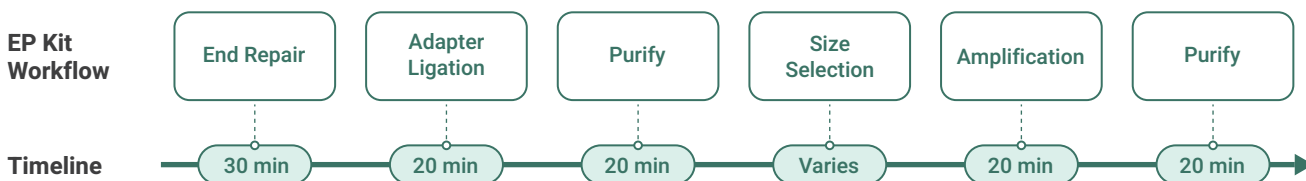
### Sequencing Performance Matrix

|                    | Duplication ratio | On-target ratio | Fold 80 base penalty | Mean depth over target region | 1x coverage | 10x coverage | 20x coverage | 50x coverage | 100x coverage |
|--------------------|-------------------|-----------------|----------------------|-------------------------------|-------------|--------------|--------------|--------------|---------------|
| <b>Celemics EP</b> | 5.01%             | 88.58%          | 1.51                 | 471.21                        | 100.00%     | 99.95%       | 99.89%       | 99.56%       | 98.75%        |
| <b>Vendor I</b>    | 4.20%             | 88.88%          | 1.53                 | 465.64                        | 100.00%     | 99.97%       | 99.95%       | 99.81%       | 99.20%        |

Table 3. Sequencing performance comparison. The prepared libraries using Celemics' EP kit and Vendor I were sequenced for performance comparison. The results were comparable to one another for on-target and duplication ratio, with fold-80 base penalty (lower the better) of Celemics kit lower than the Vendor I

## Celemics Library Preparation Kit – LP for Ion Torrent

Celemics provides the optimized library preparation kit for Ion Torrent platform users. The user may choose either sonicator or fragmentase for DNA fragmentation.



### Reproducibility for Celemics LP kit for Ion Torrent

| Sample Name | Input amount (ng) | PCR cycle | Conc. (ng/uL) | Yield (ng) |
|-------------|-------------------|-----------|---------------|------------|
| 1           | 200               | 12        | 29.2          | 876.0      |
| 2           | 200               | 12        | 29.6          | 888.0      |
| 3           | 200               | 12        | 30.6          | 918.0      |
| 4           | 200               | 12        | 29.5          | 885.0      |
| 5           | 200               | 12        | 30.1          | 903.0      |
| 6           | 200               | 12        | 31.1          | 933.0      |
| 7           | 200               | 12        | 29.1          | 873.0      |
| 8           | 200               | 12        | 29.7          | 891.0      |

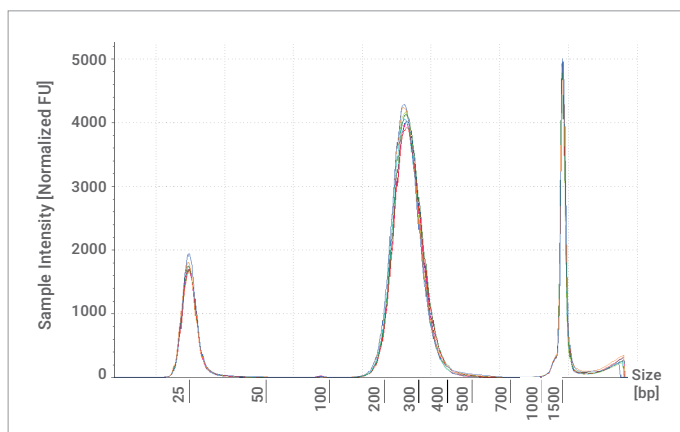


Table 1 & Figure 1. Reproducibility of Celemics' Library Preparation Kit (LP) for Ion Torrent. 200 ng input of NA12878 with Celemics LP kit showed highly reproducible result, relatively similar concentration and the total yield, for all 8 of replicated samples.

### Comparison data for Celemics LP kit for Ion Torrent

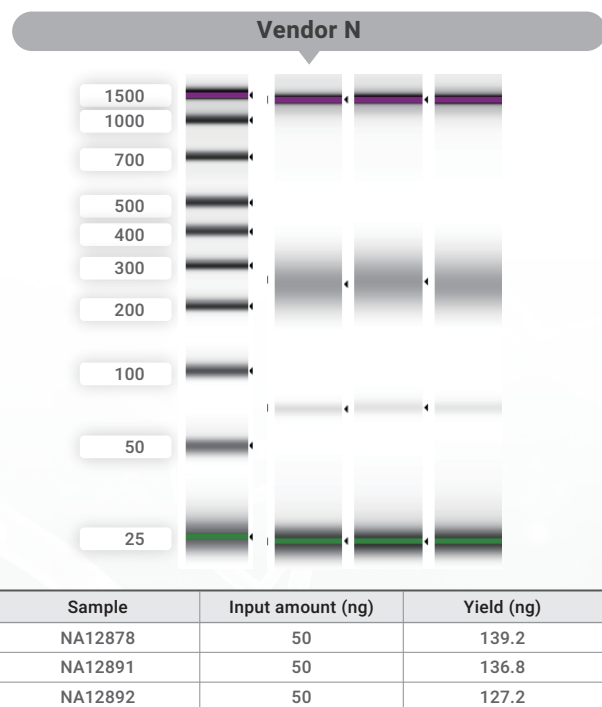
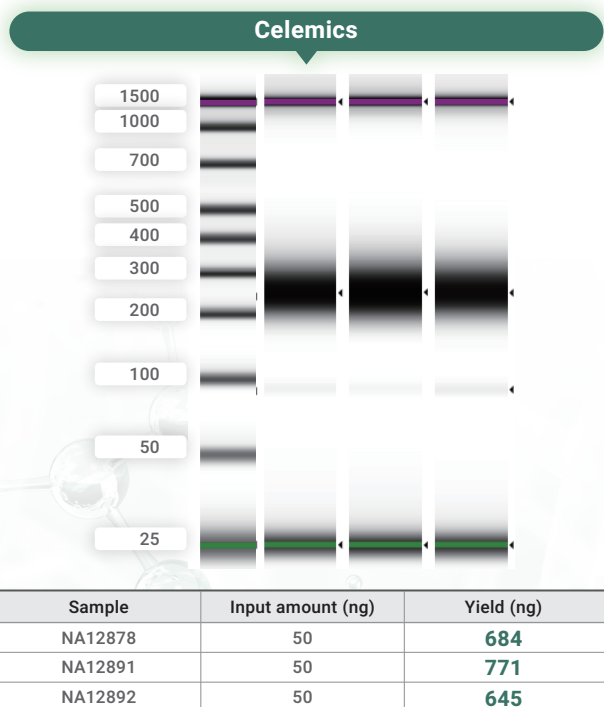


Figure 2. Comparing the library yield between Celemics LP kit and product from Vendor N for Ion Torrent. Using 50 ng input amount, Celemics LP kit showed significantly higher yield compared to those amplified with Vendor N.

## Celemics Library Preparation Kit – LP for Ion Torrent

Comparison data for Celemics LP kit for Ion Torrent

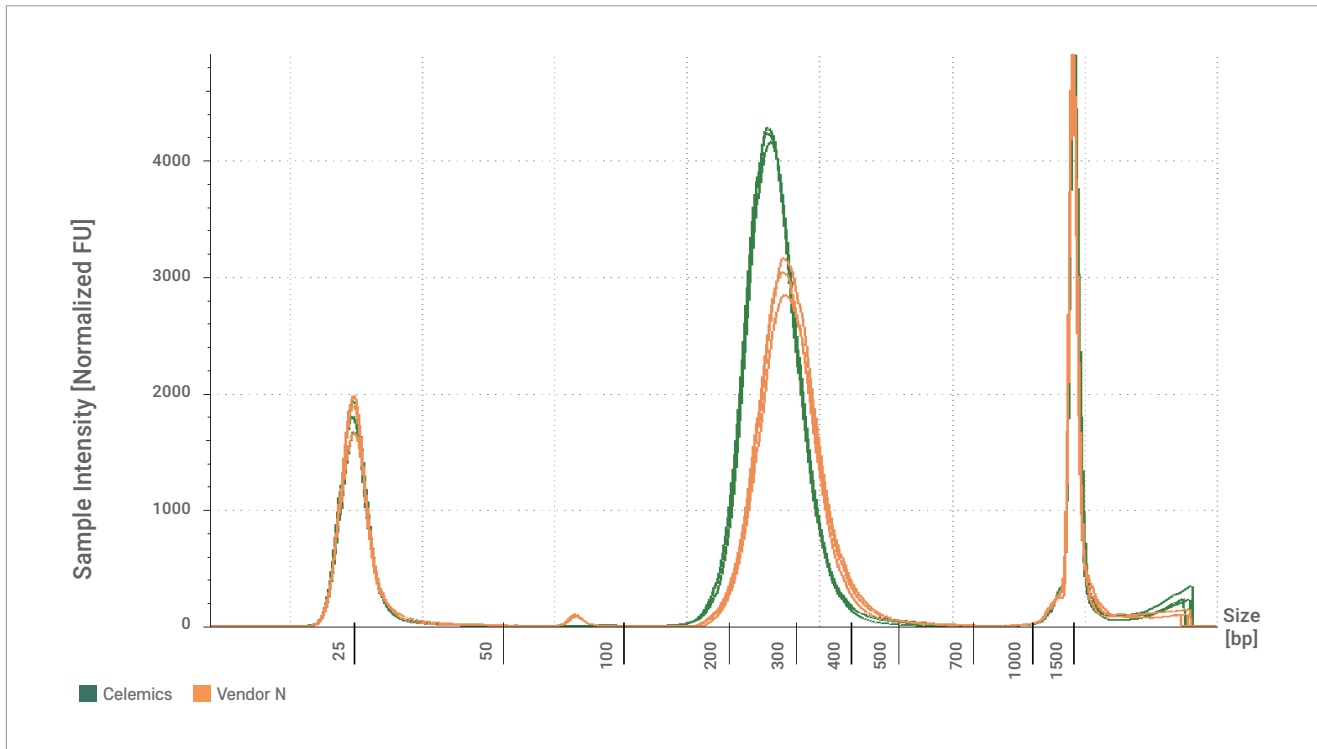
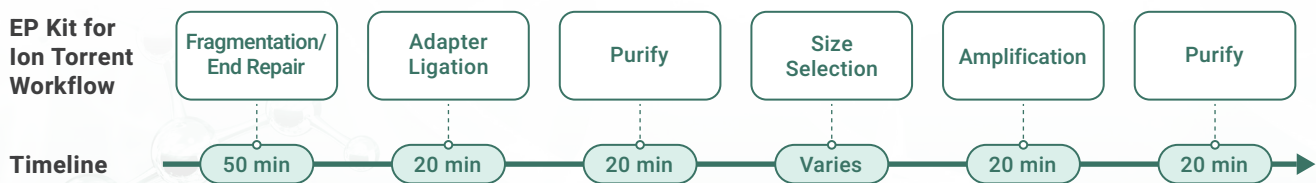


Figure 3. Comparing yield between Celemics LP kit for Ion Torrent and Vendor N. The input amount was set to 200 ng of reference DNA, NA12878, for both groups and the results showed that Celemics kit showed significantly higher yield with better reproducibility compared to Vendor N.

## Celemics Library Preparation Kit – EP for Ion Torrent

Celemics also provides the Enzymatic Library Preparation Kit (EP Kit) for Ion Torrent platform users. EP Kit eliminates the need for heavy instruments for fragmentation, such as sonicator, and user can prepare high-yield libraries with easy to follow protocols.



## Order Information | Library Preparation Kit

### Library Prep Kit for Illumina

| Cat. No.            | Product   | Product Unit(Sample) |
|---------------------|---|----------------------|
| ILUY016/032/048/096 | Illumina; Library Prep Kit; UDI; Short Adapter                    | 16/32/48/96          |
| IEUY016/032/048/096 | Illumina; Enzymatic Library Prep Kit; UDI; Short Adapter          | 16/32/48/96          |
| ILDY016/032/048/096 | Illumina; Library Prep Kit; Dual Index; Short Adapter             | 16/32/48/96          |
| IEDY016/032/048/096 | Illumina; Enzymatic Library Prep Kit; Dual Index; Short Adapter   | 16/32/48/96          |
| ILUA016/032/048/096 | Illumina; Library Prep Kit; UDI; U-shape Adapter                  | 16/32/48/96          |
| IEUA016/032/048/096 | Illumina; Enzymatic Library Prep Kit; UDI; U-shape Adapter        | 16/32/48/96          |
| ILDA016/032/048/096 | Illumina; Library Prep Kit; Dual Index; U-shape Adapter           | 16/32/48/96          |
| IEDA016/032/048/096 | Illumina; Enzymatic Library Prep Kit; Dual Index; U-shape Adapter | 16/32/48/96          |

\* For Illumina Prep Kits, more adapter and index options are available. Please contact our sales team for inquiries.

### Library Prep Kit for Ion Torrent

| Cat. No.            | Product                                       | Product Unit(Sample) |
|---------------------|---|----------------------|
| TLIP016/032/048/096 | Ion Torrent; Library Prep Kit; IonXpress      | 16/32/48/96          |
| TEIP016/032/048/096 | Ion Torrent; Enzymatic Library Kit  IonXpress | 16/32/48/96          |

### Library Prep Kit for MGI

| Cat. No.            | Product   | Product Unit(Sample) |
|---------------------|---|----------------------|
| MLAT016/032/048/096 | MGI; Library Prep Kit; MGI Single Index           | 16/32/48/96          |
| MEAT016/032/048/096 | MGI; Enzymatic Library Prep Kit; MGI Single Index | 16/32/48/96          |

#### Celemics, Inc. (HQ)

20F, BYC Highcity Bldg. A, Gasandigital 1-ro 131,  
Geumcheon-gu, Seoul, Korea 08506  
support@celemics.com / www.celemics.com

#### US Office

1100 Olympic Dr. Ste 106  
Corona California USA 92881  
Tel. +1.951.805.8845

#### India Private Limited

8th Floor, Whitefield Rd, Brigade Metropolis, Garudachar  
Palya, Mahadevapura, Bangalore, Karnataka - 560048  
Tel. +91.80000.57106