This is a set of Escherichia coli integrating vectors that differ in their selectable markers (kanamycin, chloramphenicol, tetracycline). Also included is a strain containing a compatible helper plasmid (pLDR8) that provides the lambda Int necessary for attP/attB integration.

The components and their ATCC numbers are listed below:

<table>
<thead>
<tr>
<th>Vector</th>
<th>Marker</th>
<th>ATCC No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>pLDR8</td>
<td>kanR</td>
<td>77357</td>
</tr>
<tr>
<td>pLDR9</td>
<td>ampR, kanR</td>
<td>77358</td>
</tr>
<tr>
<td>pLDR10</td>
<td>amp, cmlR</td>
<td>77359</td>
</tr>
<tr>
<td>pLDR11</td>
<td>ampR, tetR</td>
<td>77360</td>
</tr>
</tbody>
</table>

More specific information on each vector is included below.

**Designation:** Escherichia coli integrating vector kit

**ATCC® Number: 77357™**

**Designation:** pLDR8 plasmid in Escherichia coli

**Description:** pLDR8 is compatible with, and provides int function for, the vectors pLDR9, pLDR10, and pLDR11. Expression of int in pLDR8 is regulated by lambda PR, by the temperature sensitive cI857 repressor. Replication of pLDR8 is also temperature sensitive. Therefore, at 30°C, replication of the plasmid is normal and int is not expressed. At 42°C, int is expressed but pLDR8 is no longer replicated, resulting in loss of int after a few cell generations. The order of the major features in this plasmid are: EcoRI - pSC101 ori - neoR - PstI - cI857 - PR promoter - int.

-Plasmid 28: 14-24, 1992

**Note:** Temperature-resistant derivatives arise frequently. It is important to isolate a clone that is temperature-sensitive and kanamycin-resistant before use.

**Vector Information:**

- **Vector size (kb):** 7.6
- **Markers:** kanR

**Distribution host:** Escherichia coli DH5α

**Recommended growth media:** LB + kanamycin (25 µg/mL)

**Temperature:** 30°C (see notes above)

**Notes:** Restriction digests of the vector gave the following sizes (in kb): EcoRI/PstI - 5.4, 2.2; BamHI - 4.2, 3.4; PstI - 7.6; HindIII - 5.7, 1.9

-ATCC Staff

**ATCC® Number: 77358™**

**Designation:** pLDR9 plasmid in Escherichia coli

**Description:** This vector contains the attP sequence for integrating DNA into the lambda attachment site attB. It requires the lambda inverterase (int) such as that provided by pLDR8. When a recombinant construct is digested with NotI, the origin is separated from the insert. Each fragment has a distinct selectable marker. After religation to form origin-free circles, the products are transformed into bacteria with pLDR8. Expression of int in pLDR9 is regulated by lambda PR, by the temperature-sensitive cI857 repressor. Replication of pLDR8 is also temperature sensitive. Therefore, at 30°C, replication of the plasmid is normal and int is not expressed. At 42°C, int is expressed but pLDR8 is no longer replicated, resulting in loss of int after a few cell generations. The order of the major features in this plasmid are: NotI - ampR - Clal/MCS/EcoRI - attP - NotI - pmB1 ori - kanR.

-Plasmid 28: 14-24, 1992

**Vector information:**

- **Vector size (kb):** 7.6
- **Markers:** kanR
Vector size (kb): 4.1
Markers: ampR, kanR
Replicon: pMB1
Cloning sites: Clal Sall XbaI BamHI SacI EcoRI
Construction: pT7-7, λ attP, pHSG418 neo

Distribution host: Escherichia coli WM1202
Recommended growth media: LB + ampicillin (50 µg/mL)
Temperature: 37°C

Notes: Restriction digests of the vector gave the following sizes (in kb): EcoRI/Bg1II - 3.7, 0.5; BamHI - 4.2; XbaI - 4.2; NotI - 2.4, 1.8.

-ATCC Staff

ATCC® Number: 77359™

Designation: pLDR10 plasmid in Escherichia coli

Description: This vector contains the attP sequence for integrating DNA into the lambda attachment site attB. It requires the lambda integrase (int) such as that provided by pLDR8. When a recombinant construct is digested with NotI, the origin is separated from the insert. Each fragment has a distinct selectable marker. After religation to form origin-free circles, the products are transformed into bacteria with pLDR8. Expression of int in pLDR8 is regulated by lambda PR, by the temperature-sensitive cI857 repressor. Replication of pLDR8 is also temperature sensitive. Therefore, at 30°C, replication of the plasmid is normal and int is not expressed. At 42°C, int is expressed but pLDR8 is no longer replicated, resulting in loss of int after a few cell generations. The order of the major features in this plasmid are: NotI - ampR - Clai/MCS/EcoRI - attP - NotI - pMB1 ori - cmlRR.

-Plasmid 28: 14-24, 1992

Vector information:
Vector size (kb): 3.8
Markers: ampR, cmlR
Replicon: pMB1
Cloning sites: Clal HindIII Sall XbaI Smal SacI
Construction: pT7-7, λ attP, pACYC184 cat

Distribution host: Escherichia coli WM1202
Recommended growth media: LB + ampicillin (50 µg/mL)
Temperature: 37°C

Notes: Restriction digests of the vector gave the following sizes (in kb): EcoRI/Bg1II - 1.8, 1.6, 0.5; BamHI - 3.9; XbaI - 3.9; NotI - 2.0, 1.9.

-ATCC Staff

ATCC® Number: 77360™

Designation: pLDR11 plasmid in Escherichia coli

Description: This vector contains the attP sequence for integrating DNA into the lambda attachment site attB. It requires the lambda integrase (int) such as that provided by pLDR8. When a recombinant construct is digested with NotI, the origin is separated from the insert. Each fragment has a distinct selectable marker. After religation to form origin-free circles, the products are transformed into bacteria with pLDR8. Expression of int in pLDR8 is regulated by lambda PR, by the temperature-sensitive cI857 repressor. Replication of pLDR8 is also temperature sensitive. Therefore, at 30°C, replication of the plasmid is normal and int is not expressed. At 42°C, int is expressed but pLDR8 is no longer replicated, resulting in loss of int after a few cell generations. The order of the major features in this plasmid are: NotI - ampR - Clai/MCS/EcoRI - attP - NotI - pMB1 ori - tetR.

-Plasmid 28: 14-24, 1992

Vector information:
Vector size (kb): 4.1
Markers: ampR, tetR
Replicon: pMB1
Cloning sites: Clai HindIII XbaI Smal SacI EcoRI
Construction: pT7-7, λ attP, pBR322 tet
**Distribution host:** Escherichia coli WM1202  
**Recommended growth media:** LB + ampicillin (50 µg/mL)  
**Temperature:** 37°C

**Notes:** Restriction digests of the vector gave the following sizes (in kb): EcoRI/Bg1II - 3.6, 0.5; BamHI - 2.2, 1.9; XbaI - 4.1; NotI - 2.3, 1.8.

- ATCC Staff

### Propagation

1. Open vial according to instructions.
2. Thaw the vial and incubate cultures at the recommended temperature.
3. Isolate DNA using standard plasmid preparation procedures.

### References

References and other information relating to this product are available online at [www.atcc.org](http://www.atcc.org).