Lambda

Lambda (λ) is a large, temperate *E. coli* bacteriophage with a linear, largely double-stranded DNA genome (1-5). At each end, the 5' strand overhangs the 3' strand by 12 bases. These single-stranded overhangs are complementary and anneal to form a cos site following entry into a host cell. Once annealed, the genome is a circular, completely double-stranded molecule which serves as a template for rolling-circle replication.

Many laboratory strains of lambda are derivatives of the strain λcI857 Sam7, which contains four point mutations relative to the wild type strain. The cI1 mutation in the cI gene creates a new HindIII site at 37584 not present in the wild type. All lambda products sold by NEB are λcI857 Sam7.

Numbering of the genome sequence begins at the first (5'-most) base of the left end (bottom of diagram below) and continues rightward from late genes towards the early genes.

Enzymes with unique restriction sites are shown in **bold** type and enzymes with two restriction sites are shown in regular type. Location of sites of all NEB restriction enzymes for select plasmids can be found on the NEB website (choose Tools & Resources > DNA Sequences and Maps tool). Restriction site coordinates refer to the position of the 5'-most base on the top strand in each recognition sequence.

### References