Cre Recombinase is a Type I recombinase from bacteriophage P1 that catalyzes the site-specific recombination of loxP sequences. It requires no energy cofactors and Cre-mediated recombination quickly reaches equilibrium between substrate and reaction products (2). The enzyme is 34 bp recognition element.

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Source:
Purified from an E. coli strain carrying a plasmid encoding Cre Recombinase from bacteriophage P1 with additional N-terminal Ala and Gly residues (4).

Storage:
The enzyme is supplied in: 15 mM Tris (pH 8.0), 250 mM NaCl, 0.3 mg/ml BSA and 50% glycerol. The enzyme can be stored at –20°C.

Quality Control Assays:
Enzyme Activity: Incubation of 10 units of Cre Recombinase with 1 µg of pX744 RE DNA (HindIII-digested) for 16 hours at 37°C results in no detectable excision activity. 

Recombinase Activity: Incubation of 10 units of Cre Recombinase with 1 µg of pX744 RE DNA (HindIII-digested) for 16 hours at 37°C results in no detectable excision activity.

Heat Inactivation: 40 units of enzyme were incubated at 70°C for 10 minutes.

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Longer incubation times will not improve recombination, and instead, will likely lead to higher molecular weight recombination products.

Increasing the amount of Cre Recombinase in the reaction can inhibit recombination by forming loxP dependent Cre-DNA aggregates.

References: