**Applications:**
- Removing 5’ phosphates from DNA, RNA, rNTPs and dNTPs
- Preparation of templates for 5’ end labeling
- Prevention of recirculation of cloning vectors
- Dephosphorylation of serine, threonine and tyrosine residues in proteins

Supplied in: 50 mM KCl, 10 mM Tris-HCl (pH 8.2), 1 mM MgCl₂, 0.1 mM ZnCl₂ and 50% glycerol.

Reagents Supplied with Enzyme:
- 1X NEBuffer 3

**Reaction Conditions:**
1. Suspend DNA in 1X NEBuffer (0.5 µg/10 µl).
2. Add 0.5 units of CIP/µg vector DNA.
3. Incubate for 60 minutes at 37°C.
4. Purify DNA by gel purification, spin-column purification or phenol extraction.

**Unit Definition:**
One unit is defined as the amount of enzyme that hydrolyzes 1 µmol of β-nitrophosphophate to β-nitrophenol in a total reaction volume of 1 ml in 1 minute at 37°C (2).

**Unit Assay Conditions:**
- β-Nitrophenylphosphate (1.0 mM)
- 10X NEBuffer 3
- Incubate for 60 minutes at 37°C
- Stop reaction with 1 ml of 200 mM glycine

**Quality Controls Assays**

**Exonuclease Activity:** Incubation of 50 units of CIP with 1 µg of φX174 RF l DNA for 4 hours at 37°C in 50 µl reaction buffer resulted in < 5% conversion to RF II.

**RNase Activity:** Incubation of 50 units of CIP with 1 µg RNA Transcript for 4 hours at 37°C resulted in the same banding pattern as a sample with no enzyme.

**Physical Purity:** Purified to > 95% homogeneity as determined by SDS-PAGE analysis using Coomassie Blue detection.

**Heat Inactivation:** No

**References:**