removed by Fpg include 7, 8-dihydro-8-oxoguanine (8-oxoguanine), 8-oxoadenine, fapy-guanine, mFapy-guanine, fapy-adenine, aflatoxin B1-fapy-guanine, 5-hydroxy-cytosine and 5-hydroxy-uracil (1,2).

**Source:** An *E. coli* strain that carries the cloned *fpg* gene (3)

**Applications:**
- Single cell gel electrophoresis (Comet assay) (4,5,6)
- Alkaline elution (7)
- Alkaline unwinding (8)
- Modified nick translation (9)

**Supplied in:** 20 mM Tris-HCl (pH 8.0), 0.5 mM EDTA, 50 mM NaCl, 200 µg/ml BSA and 50% glycerol.

**Reagents Supplied with Enzyme:**
- 10X NEBuffer 1, 100X BSA.

**Reaction Conditions:**
- 1X NEBuffer 1, supplemented with 100 µg/ml BSA.
- Incubate at 37°C.

**1X NEBuffer 1:**
- 10 mM Bis Tris Propane-HCl
- 10 mM MgCl₂
- 1 mM DTT
- pH 7.0 @ 25°C

When using a buffer other than the optimal (supplied) NEBuffer, it may be necessary to add more enzyme to achieve complete digestion.

**Unit Definition:**
- One unit is defined as the amount of enzyme required to cleave 1 pmol of a 34-mer oligonucleotide duplex containing a single 8-oxoguanine base paired with a cytosine in a total reaction volume of 10 µl in 1 hour at 37°C.

**Unit Assay Conditions:**
- 1X NEBuffer 1 containing 10 pmol of fluorescently labeled oligonucleotide duplex, supplemented with 100 µg/ml BSA in a total reaction volume of 10 µl.

**Recommended Dilution for the Comet Assay:**
- 1:10³ to 1:10⁴ (4,5,6,10).

A detailed protocol can be found at www.neb.com.
References: