Some of the damaged bases recognized and removed by hOGG1 include 7,8-dihydro-8-oxo-β-phospho-unsaturated aldehyde, AP site leaving a 5’ phosphate and a 3’-apurinic (AP) site. The AP-lyase activity cleaves 3´ to the double stranded DNA, generating an apurinic N-glyco-glycosylase and an AP-lyase. The N-glyco-glycosylase which acts both as N-glycosylase and an AP-lyase. The N-glyco-sylylase activity releases damaged purines from N-glyco-sylylase (AP) site. The AP-lyase activity cleaves 3’ to the AP site leaving a 5’ phosphate and a 3’-phospho-α, β-unsaturated aldehyde.

Some of the damaged bases recognized and removed by hOGG1 include 7, 8-dihydro-8-oxoguanine (8-oxoguanine) when base paired with cytosine, 8-oxoadenine when base paired with cytosine, foramidopyrimidine (fapy)-guanine and methy-fapy-guanine (1,2).

Source: An E. coli strain that carries the cloned human ogg1 gene (3).

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

Supplied in: 20 mM Tris-HCl (pH 8.0), 1 mM EDTA, 50 mM NaCl, 200 µg/ml BSA and 50% glycerol.

Reagents supplied with Enzyme: 10X NEBuffer 2, 100X BSA.

Reaction Conditions: 1X NEBuffer 2, supplemented with 100 µg/ml BSA. Incubate at 37°C.

Exonuclease Activity: Incubation of a 50 ul reaction containing 8 units of hOGG1 with 1 µg of a mixture of single and double-stranded [3H] E. coli DNA (10⁵ cpm/µg) for 4 hours at 37°C released < 0.1% of the total radioactivity.

Endonuclease Activity: Incubation of 8 units of enzyme with 1 µg of λ DNA for 4 hours at 37°C in 50 µl reaction buffer resulted in < 5% conversion to RF II.

(See other side)
Heat Inactivation: 160 units of enzyme were inactivated by incubation at 65°C for 15 minutes.

References: