

New England Biolabs Product Specification

<i>Product Name:</i>	<i>Fpg</i>
<i>Catalog #:</i>	<i>M0240S/L/V</i>
<i>Concentration:</i>	<i>8,000 units/ml</i>
<i>Unit Definition:</i>	<i>One unit is defined as the amount of enzyme required to cleave 10 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.</i>
<i>Shelf Life:</i>	<i>24 months</i>
<i>Storage Temp:</i>	<i>-20°C</i>
<i>Storage Conditions:</i>	<i>50 mM NaCl, 20 mM Tris-HCl, 0.5 mM EDTA, 50 % Glycerol, 200 µg/ml BSA, (pH 8.0 @ 25°C)</i>
<i>Specification Version:</i>	<i>PS-M0240S/L v1.0</i>
<i>Effective Date:</i>	<i>25 Jan 2017</i>

Assay Name/Specification (minimum release criteria)

Exonuclease Activity (Radioactivity Release) - A 50 µl reaction in NEBuffer 1 containing 1 µg of a mixture of single and double-stranded [³H] *E. coli* DNA and a minimum of 24 units of Fpg incubated for 4 hours at 37°C releases <1.0% of the total radioactivity.

Non-Specific DNase Activity (16 Hour) - A 50 µl reaction in NEBuffer 1 containing 1 µg of Lambda-HindIII DNA and a minimum of 40 units of Fpg incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

Protein Concentration (A280) - The concentration of Fpg is 0.39 mg/ml +/- 10% as determined by UV absorption at 280 nm. Protein concentration is determined by the Pace method using the extinction coefficient of 39,795 and molecular weight of 30,290 daltons for Fpg (Pace, C.N. et al. (1995) Protein Sci., 4, 2411-2423).

Protein Purity Assay (SDS-PAGE) - Fpg is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.

qPCR DNA Contamination (*E. coli* Genomic) - A minimum of 8 units of Fpg is screened for the presence of *E. coli* genomic DNA using SYBR® Green qPCR with primers specific for the *E. coli* 16S rRNA locus. Results are quantified using a standard curve generated from purified *E. coli* genomic DNA. The measured level of *E. coli* genomic DNA contamination is ≤ 1 *E. coli* genome.

RNase Activity (Extended Digestion) - A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 8 units of Fpg is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.





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Date 25 Jan 2017

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Quality Approver

