## New England Biolabs
### Product Specification

**Product Name:** Uracil-DNA Glycosylase (UDG)  
**Catalog #:** M0280S/L  
**Concentration:** 5,000 units/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to release 60 pmol per minute of a fluorescently labeled 47-mer single-stranded DNA oligonucleotide containing a single uracil base in 30 minutes at 37°C in a total reaction volume of 50 µl in 1X UDG Buffer.  
**Shelf Life:** 24 months  
**Storage Temp:** -20°C  
**Storage Conditions:** 50 mM KCl, 10 mM Tris-HCl, 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol, 100 µg/ml rAlbumin (pH 7.4 @ 25°C)  
**Specification Version:** PS-M0280S/L v2.0  
**Effective Date:** 12 Jan 2024

### Assay Name/Specification (minimum release criteria)

<table>
<thead>
<tr>
<th>Assay Name/Specification</th>
<th>Release Criteria</th>
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</thead>
<tbody>
<tr>
<td><strong>Endonuclease Activity (Nicking)</strong></td>
<td>A 50 µl reaction in NEBuffer™ r1.1 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 50 units of Uracil-DNA Glycosylase (UDG) incubated for 4 hours at 37°C results in &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</td>
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<tr>
<td><strong>Exonuclease Activity (Radioactivity Release)</strong></td>
<td>A 50 µl reaction in NEBuffer™ r1.1 containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 50 units of Uracil-DNA Glycosylase (UDG) incubated for 4 hours at 37°C releases &lt;0.1% of the total radioactivity.</td>
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<tr>
<td><strong>Non-Specific DNase Activity (16 Hour)</strong></td>
<td>A 50 µl reaction in NEBuffer™ r1.1 containing 1 µg of Lambda-HindIII DNA and a minimum of 50 units of Uracil-DNA Glycosylase (UDG) incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarase gel electrophoresis.</td>
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<tr>
<td><strong>Protein Purity Assay (SDS-PAGE)</strong></td>
<td>Uracil-DNA Glycosylase (UDG) is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</td>
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Nancy Considine  
Quality Approver  
Date 12 Jan 2024