

## Active Recombinant E.coli Endonuclease VIII

**Cat. No.** xthA-55E    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | Purified from a strain of <i>E. coli</i> that expresses the recombinant Exonuclease III gene.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Species</b>          | <i>E.coli</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Source</b>           | <i>E.coli</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Description</b>      | Exonuclease III is a 3'→5' exonuclease which acts by digesting one strand of a dsDNA duplex at a time or digesting the RNA strand of an RNA-DNA heteroduplex. Exonuclease III breaks phosphodiester bonds on the 5' side of AP sites in both dsDNA and ssDNA, removes 3' terminal groups on dsDNA, increases MutY turnover, and efficiently degrades 3' recessed but not 3' protruding DNA ends (creating 5' overhangs). Exo III removes a limited number of nucleotides per binding event, resulting in coordinated progressive deletions within the population of DNA molecules. |
| <b>Bio-activity</b>     | 100,000 U/mg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Molecular Mass</b>   | 30,969 Daltons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Purity</b>           | >99% by SDS-PAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Unit Definition</b>  | One unit is defined as the amount of enzyme required to produce 1 nmol of acid-soluble total nucleotide in 30 minutes at 37°C.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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|                       |                                                                                                                                                                                                       |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Storage</b>        | -25 to -15°C                                                                                                                                                                                          |
| <b>Concentration</b>  | 100,000 U/ml                                                                                                                                                                                          |
| <b>Storage Buffer</b> | Supplied in: 25mM Tris-HCl, 50mM KCl, 1mM DTT, 0.1mM EDTA, 50% glycerol pH 8.0 @ 25°C. Supplied with: 10X Yellow Buffer: 100mM Bis-Tris-Propane-HCl, 100mM MgCl <sub>2</sub> , 10mM DTT, pH 7.0 @25°C |

## GENE INFORMATION

|                        |                                                                           |
|------------------------|---------------------------------------------------------------------------|
| <b>Gene Name</b>       | xthA exonuclease III [ <i>Escherichia coli</i> str. K-12 substr. MG1655 ] |
| <b>Official Symbol</b> | xthA                                                                      |
| <b>Synonyms</b>        | xthA; ECK1747; JW1738; xth; exonuclease; NP_416263.1; EC 3.1.11.2         |
| <b>Gene ID</b>         | 946254                                                                    |
| <b>Protein Refseq</b>  | NP_416263                                                                 |
| <b>Pathway</b>         | Base excision repair                                                      |

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