Anti-UmuD antibody, rabbit serum

61-011　　100 µl

Shipping and Storage: Shipped at 4℃ or -20℃ and Store at -20℃

Immunogen: Purified recombinant LacZ'-UmuD fusion protein

Form: Antiserum added with 0.05% sodium azide

Application:

Western blotting (x 3,000 dilution, Fig.1)

Background: The products of ***umuD***, *umuC*, and *recA* genes (SOS genes) are required for mutagenesis induced by radiation or chemical agents. Transcription of these SOS genes is repressed by a repressor, LexA protein in uninduced cells (Ref.2). Exposure of cells to DNA-damaging agents activates RecA protein to promote proteolytic cleavage of LexA protein. Inactivation of LexA protein by the cleavage consequently derepresses the SOS genes, ***umuD***, *C* and *recA*. **UmuD** protein is then auto-cleaved, which is promoted by RecA protein ssDNA in a ATP-dependent manner (Ref.1). The processed **UmuD** protein is the active form for mutagenesis and the UmuD-UmuC complex functions as an error-prone translesion DNA polymerase (Ref.3).

The molecular weight of the intact **UmuD** is 17kD and the proteolytically processed active form is 14kD (Ref.1 & Fig.1).

Data Link : Swiss-Prot P0AG11

References: This antibody was used in Ref.1.

1. Shinagawa H *et al* (1988) "RecA protein-dependent cleavage of UmuD protein and SOS mutagenesis." *Proc Natl Acad Sci USA* **85**: 1806-1810 PMID: 3126496
2. Kitagawa Y *et al* (1985) "Structural analysis of the umu operon required for inducible mutagenesis in Escherichia coli." *Proc Natl Acad Sci USA* **82**: 4336-4340 PMID: 2989817
3. Friedberg EC *et al* DNA Repair and Mutagenesis 2nd ed., ASM Press

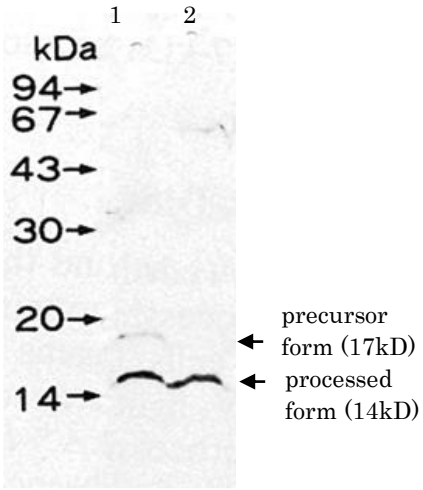

Fig1. Detection of UmuD protein in the extract of *E. coli* DE274 (*lexA51, recA730*) by Western blotting using this antibody.
lane1: without mitomycin C treatment
lane2: treated with mitomycin C

Related Products:

01-001 ***E. coli*** **RecA protein**

61-003 **anti-*E. coli* RecA antibody, rabbit polyclonal**

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