Bio Academia
Manufacturer

AS ONE

Anti-UmuD antibody, rabbit polyclonal antiserum

61-011 100 µl

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 an 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).

Application

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

Specification

Immunogen: Purified recombinant LacZ'-UmuD fusion protein
Form: Antiserum with 0.05% sodium azide
Storage: Shipped at 4°C and store at -20°C or long term storage, -70°C

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

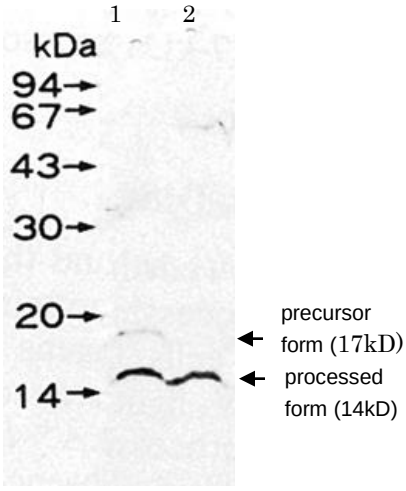

Fig. 1. Detection of UmuD protein in the extract of *E. coli* DE274 (*lexA51, recA730*) by Western blot using this antibody.
Lane 1: without mitomycin C treatment
Lane 2: treated with mitomycin C