

Anti-EDD / UBR5 antibody, rabbit polyclonal, affinity-purified

70-501 100 μ g

Key words: DNA damage, DNA repair, Ubl conjugation pathway, Ubiquitin ligase E3, Zinc finger, Acetylation, Phosphorylation, HECT domain, PABC domain

Function: EDD / UBR5 (2,799 aa, 309 kDa) is E3 ubiquitin-protein ligase which is a component of the N-end rule pathway. Recognizes and binds to proteins bearing specific N-terminal residues that are destabilizing according to the N-end rule, leading to their ubiquitination and subsequent degradation. By similarity. Involved in maturation and/or transcriptional regulation of mRNA by activating CDK9 by polyubiquitination. May play a role in control of cell cycle progression. May have tumor suppressor function. Regulates DNA topoisomerase II binding protein (TopBP1) in the DNA damage response. Plays an essential role in extraembryonic development. Ubiquitinates acetylated PCK1. Also acts as a regulator of DNA damage response by acting as a suppressor of RNF168, an E3 ubiquitin-protein ligase that promotes accumulation of 'Lys-63'-linked histone H2A and H2AX at DNA damage sites, thereby acting as a guard against excessive spreading of ubiquitinated chromatin at damaged chromosomes.

Applications

1) Western blotting (1/1,000 dilution) (Fig. 1)

Not tested for other applications.

Immunogen: Synthetic peptide of human EDD protein corresponding to 394-408 amino acids, C-KWSESEPYRNAQNPS, conjugated with KLH

Reactivity: Human (HeLa, HEK293T, MCF7) and mouse (NIH3T3). Note that expression level of EDD varies greatly, depending on tissues and cell types (see Fig.1).

Not tested in other species.

Product: Affinity-purified from rabbit antiserum with immunogen peptide conjugated with agarose beads.

Form: 1 mg/ml in PBS (x1), 50% glycerol. Filter-sterilized. Azide and carrier free.

Storage: Sent at 4°C. Upon arrival, spin-down and store at -20°C.

Data link: [uniprot/O95071](https://www.uniprot.org/entry/O95071) UBR5 human

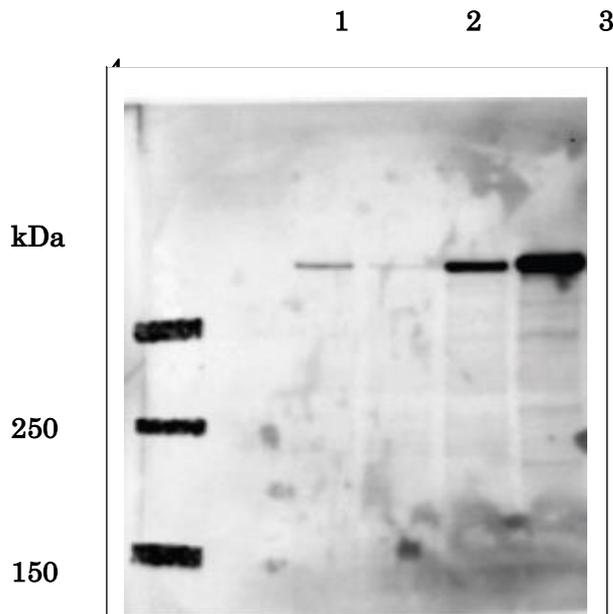


Fig.1 Identification of EDD in whole cell extracts of human cells by western blotting using anti-EDD antibody.

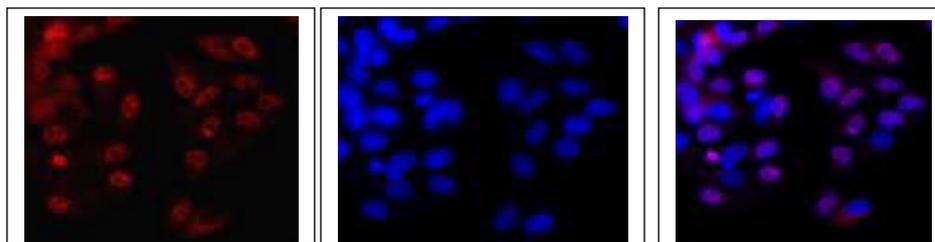
Lane 1; HeLa cells transfected with control siRNA

Lane 2; HeLa cells transfected with EDD-specific siRNA

Lane 3; HEK293T cells transfected with pFlag-CMV-5b empty vector

Lane 4; HEK293T cells transfected with pCMV-Tag2b-EDD expression vector

Predicted molecular mass of EDD is 309 kDa and the corresponding band in Lane 1 is much reduced in Lane 2 by introduction of the EDD-specific siRNA. Note that expression level of EDD in HEK293T cells is much higher than in HeLa cells. The data are by courtesy of Prof. M. Fujita of Kyushu University



Anti-EDD antibody

DAPI

Merge

Fig.2. Immunofluorescence staining of EDD protein in MCF7 cells.

MCF7 cells were fixed in 4% paraformaldehyde overnight and permeabilized

in 0.25% TritonX 100 in PBS for 10 min. Anti-EDD antibody was used at 1/1,000 dilution.

As second antibody, goat anti-rabbit IgG conjugated with Alex488 was used at 1/1,000 dilution.

DNA was stained with DAPI. Note that not all nuclei were stained, indicating cell cycle dependency