

**Product Name: OTUB1 Rabbit Monoclonal antibody**  
**Catalog #: AMRe02377**



## Summary

|                        |                                        |
|------------------------|----------------------------------------|
| <b>Production Name</b> | OTUB1 Rabbit Monoclonal antibody       |
| <b>Description</b>     | Recombinant Rabbit Monoclonal antibody |
| <b>Host</b>            | Rabbit                                 |
| <b>Application</b>     | WB,IP                                  |
| <b>Reactivity</b>      | Human,Mouse,Rat                        |

## Performance

|                     |                                                                                                      |
|---------------------|------------------------------------------------------------------------------------------------------|
| <b>Conjugation</b>  | Unconjugated                                                                                         |
| <b>Modification</b> | Unmodified                                                                                           |
| <b>Isotype</b>      | IgG                                                                                                  |
| <b>Clonality</b>    | Monoclonal Antibody                                                                                  |
| <b>Form</b>         | Liquid                                                                                               |
| <b>Storage</b>      | Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.             |
| <b>Buffer</b>       | 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40% Glycerol, 0.01% Sodium azide and 0.05% protective protein |
| <b>Purification</b> | Affinity Purified                                                                                    |

## Immunogen

|                          |                                                                                                                                                                                                                     |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>         | OTUB1                                                                                                                                                                                                               |
| <b>Alternative Names</b> | OTUB1; OTB1; OTU1; HSPC263; Ubiquitin thioesterase OTUB1; Deubiquitinating enzyme OTUB1; OTU domain-containing ubiquitin aldehyde-binding protein 1; Otubain-1; hOTU1; Ubiquitin-specific-processing protease OTUB1 |
| <b>Gene ID</b>           | 55611                                                                                                                                                                                                               |
| <b>SwissProt ID</b>      | Q96FW1.                                                                                                                                                                                                             |

## Application

|                         |                                            |
|-------------------------|--------------------------------------------|
| <b>Dilution Ratio</b>   | WB: 1:500-1:1000 IP: 1:20                  |
| <b>Molecular Weight</b> | Calculated MW: 31 kDa; Observed MW: 31 kDa |

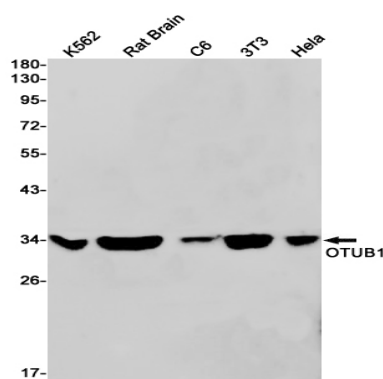
## Background

Hydrolase that can specifically remove 'Lys-48'-linked conjugated ubiquitin from proteins and plays an important regulatory role at the level of protein turnover by preventing degradation. Regulator of T-cell anergy, a phenomenon that occurs when T-cells are rendered unresponsive to antigen rechallenge and no longer respond to their cognate antigen. Acts via its interaction with RNF128/GRAIL, a crucial inducer of CD4 T-cell anergy. Isoform 1 destabilizes RNF128, leading to prevent anergy. In contrast, isoform 2 stabilizes RNF128 and promotes anergy. Surprisingly, it regulates RNF128-mediated ubiquitination, but does not deubiquitinate polyubiquitinated RNF128. Deubiquitinates estrogen receptor alpha (ESR1). Mediates deubiquitination of 'Lys-48'-linked polyubiquitin chains, but not 'Lys-63'-linked polyubiquitin chains. Not able to cleave di-ubiquitin. Also capable of removing NEDD8 from NEDD8 conjugates, but with a much lower preference compared to 'Lys-48'-linked ubiquitin. Plays a key non-catalytic role in DNA repair regulation by inhibiting activity of RNF168, an E3 ubiquitin-protein ligase that promotes accumulation of 'Lys-63'-linked histone H2A and H2AX at DNA damage sites. Inhibits RNF168 independently of ubiquitin thioesterase activity by binding and inhibiting UBE2N/UBC13, the E2 partner of RNF168, thereby limiting spreading of 'Lys-63'-linked histone H2A and H2AX marks. Inhibition occurs by binding to free ubiquitin: free ubiquitin acts as an allosteric regulator that increases affinity for UBE2N/UBC13 and disrupts interaction with UBE2V1. The OTUB1-UBE2N/UBC13-free ubiquitin complex adopts a configuration that mimics a cleaved 'Lys48'-linked di-ubiquitin chain. Miscellaneous In the structure described by PubMed:18954305, the His-265 active site of the catalytic triad is located too far to interact directly with the active site Cys-91. A possible explanation is that OTUB1 is in inactive conformation in absence of ubiquitin and a conformation change may move His-265 in the proximity of Cys-91 in presence of ubiquitin substrate.

## Research Area

Epigenetics and Nuclear Signaling

## Image Data



Western blot analysis of OTUB1 in K562, rat Brain, C6, 3T3, HeLa lysates using OTUB1 antibody.

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**Note**

For research use only.