

## Product datasheet for **TA384914**

### OTUB1 Rabbit Monoclonal Antibody [Clone ID: R04-6I3]

#### Product data:

|                         |  |
|-------------------------|--|
| Product Type:           | Primary Antibodies   |
| Clone Name:             | R04-6I3  |
| Applications:           | IP, WB   |
| Recommended Dilution:   | WB: 1/2000<br>IP: 1/20   |
| Reactivity:             | Human, Mouse, Rat  |
| Host:                   | Rabbit   |
| Isotype:                | IgG  |
| Clonality:              | Monoclonal   |
| Immunogen:              | A synthetic peptide of human OTUB1   |
| Formulation:            | 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40% Glycerol, 0.01% Sodium azide and 0.05% BSA    |
| Concentration:          | lot specific   |
| Purification:           | Affinity Purified  |
| Conjugation:            | Unconjugated   |
| Storage:                | Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles. |
| Stability:              | 1 year   |
| Predicted Protein Size: | Calculated MW: 31 kDa; Observed MW: 31 kDa   |
| Gene Name:              | OTU deubiquitinase, ubiquitin aldehyde binding 1   |
| Database Link:          | <a href="#">Entrez Gene 55611 Human Q96FW1</a>   |

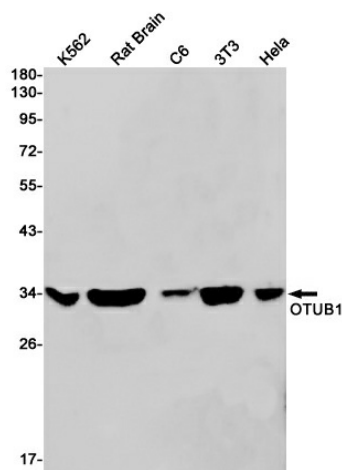
[View online »](#)

**Background:**

Swiss-Prot Acc.Q96FW1.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 inductor 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.MiscellaneousIn 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.

**Synonyms:**

FLJ20113; FLJ40710; hOTU1; HSPC263; MGC4584; MGC111158; OTB1; OTU1; Otubain-1

**Product images:**


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