

## Hrd1 (Synoviolin)

Cat. # UB307

**Background:** Hrd1 is a RING domain E3 ligase that is involved in the conjugation of ubiquitin to target substrates. Hrd1 has been demonstrated to function with the E2 enzymes UBE2D3 (UbcH5c) and UBE2G2 in vitro. Hrd1 is an ER-associated ligase involved in ERAD and has been linked to rheumatoid arthritis. It is present in human rheumatoid synovial cells and found to be a causative factor for arthropathy in *in vivo* studies. Hrd1 is also found in brain neurons and its proper regulation may be linked to neurodegenerative diseases. This construct is a Hrd1 N-terminal deletion containing residues 236-617 consisting of the complete C-terminal cytoplasmic portion. The N-terminal transmembrane spanning portion has been deleted. This Hrd1 N-terminal deletion mutant is active as an E3 ligase containing the RING and substrate recognition domains.

**Alternate names:** E3 ubiquitin-protein ligase synoviolin, HRD1, KIAA1810, MGC40372, Synovial apoptosis inhibitor 1

### Product Information

<b>Molecular Weight:</b>	Cytoplasmic fragment (236-617): 39.3 kDa (without SUMO tag)
<b>Quantity:</b>	25 µg
<b>Physical State:</b>	Dissolved in PBS, 10% glycerol
<b>Source:</b>	Recombinant human
<b>Tag:</b>	His <sub>6</sub> -SUMO
<b>Activity:</b>	Typical enzyme concentration 20nM -1 µM is used for <i>in vitro</i> conjugation depending on assay conditions
<b>Storage:</b>	-80° C. Avoid repeated freeze/thaw cycles

### References

1. Kaneko, M., Okuma, Y. and Nomura, Y, Molecular approaches to the treatment, prophylaxis, and diagnosis of Alzheimer's disease: possible involvement of HRD1, a novel molecule related to endoplasmic reticulum stress, in Alzheimer's disease. *J. Pharmacol. Sci*, 2012. **118(3)**:325-30.
2. Yagishita, N., Yamasaki, S. Nichioka, K. and Nakajima, T. Synoviolin, protein folding and the maintenance of joint homeostasis, *Nat. Clin. Prac. Rheumatol*, 2008 **4(2)**:91-7
3. Yamasaki, S. Yagishita, N. Nichioka, K. and Nakajima, T. The roles of synoviolin in crosstalk between endoplasmic reticulum stress-induced apoptosis and p53 pathway. *Cell Cycle* **6(11)**:1319-23.

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