

## Product Information

**Anti-USP8 antibody, Mouse monoclonal**  
clone US872, purified from hybridoma cell culture

Catalog Number **SAB4200527**

### Product Description

Anti-USP8 (mouse IgG1 isotype) is derived from the hybridoma US872 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a synthetic peptide corresponding to an internal sequence of human USP8 (GenelD: 9101), conjugated to KLH. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2. The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Anti-USP8 recognizes human, monkey, bovine, dog, rat and mouse USP8. The product may be used in several immunochemical techniques including immunoblotting (~ 70 and 127 kDa), immunocytochemistry and flow cytometry. Staining of the USP8 band in immunoblotting is specifically inhibited by the immunizing protein.

The process of ubiquitination is reversed by a large family of de-ubiquitinating enzymes (DUBs), which function by removing ubiquitin from target proteins in order to regulate their biological activity and modulate intracellular trafficking.<sup>1</sup> Five DUB subfamilies are known including USP, UCH, OTU, MJD and JAMM enzymes. A member of this family, UBPY/ubiquitin-specific protease 8 (USP8) was found to regulate ubiquitination of Frizzled, a receptor for Wnt/Wingless.<sup>2</sup> Deletion of UBPY/UBP8 in mice causes embryonic lethality. The defect was accompanied by a strong reduction or absence of several growth factor receptor tyrosine kinases (RTKs), like EGFR, c-met, and ERBB3.<sup>3</sup> This is in line with studies demonstrating that USP8 inactivation results in enhanced ubiquitination of ligand-activated EGFR.<sup>4</sup> Apparently, USP8 in conjunction with components of the ESCRT-0 complex, plays an integral role in the early endosomal sorting machinery that functions to protect EGFR as well as other receptors from lysosomal degradation.<sup>5-7</sup>

### Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: ~ 1.0 mg/mL

### Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

### Storage/Stability

For extended storage, freeze at -20 °C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Discard working dilution samples if not used within 12 hours.

### Product Profile

Immunoblotting: a working concentration of 0.5-1.0 µg/mL is recommended using MCF7 total cell extracts.

Immunofluorescence: a working concentration of 1.25-2.5 µg/mL is recommended using A549 cells.

Flow Cytometry: a working concentration of 5-10 µg /test is recommended using MCF7 cells.

**Note:** In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

### References

1. Komander, D., et al., *Nat. Rev. Mol. Cell. Biol.*, **10**, 550-563 (2009).
2. Mukai, A., et al., *EMBO J.*, **29**, 2114-2125 (2010).
3. Niendorf, S., et al., *Mol. Cell Biol.*, **27**, 5029-5039 (2007).
4. Mizuno, E., et al., *Mol. Biol. Cell.*, **16**, 5163-5174 (2005).
5. Berlin, I., et al., *J. Biol. Chem.*, **285**, 34909-34921 (2010).
6. Berlin, I., et al., *J. Biol. Chem.*, **285**, 37895-37908 (2010).
7. Xia, R., et al., *PLoS Biol.*, **10**, e1001239 (2012).

RC,GG,KCP,PHC 04/21-1