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Product Information

Monoclonal Anti-STUB1/CHIP
Clone ST21.55
produced in mouse, purified immunoglobulin

Catalog Number **S1073**

Product Description

Monoclonal Anti-STUB1/CHIP (mouse IgG2b isotype) is derived from the hybridoma ST21.55 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a synthetic peptide corresponding to amino acids 30-45 of human STUB1/CHIP (Gene ID: 10273). The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-STUB1/CHIP recognizes human, rat and bovine STUB1. The antibody may be used in various immunochemical techniques including ELISA and immunoblotting (~35 kDa).

Proper folding of proteins (either newly synthesized or damaged) occurs in a highly regulated fashion under the control of molecular chaperones. Cytosolic chaperones such as Hsc/Hsp70 and Hsp90 are assisted by cofactors that modulate the folding machinery in a positive or negative manner.[1] STUB1/CHIP (Carboxyl terminus of Hsc70-Interacting Protein) is such a cofactor, which interacts, among others, with Hsc70 and acts as a U-box-dependent E3 ubiquitin ligase.[2] It consists of three functional domains: a tetratricopeptide repeat (TRP) at the amino terminus, a U- box domain at the C-terminus, and a highly charged region separating the two.[3] The TRP domain mediates STUB1/CHIP's interaction with Hsp90 and Hsp70 during regulation of signaling pathways and during protein quality control, targeting Hsp70 and its substrates like p53, for proteosomal degradation.[2,4-5] STUB1/CHIP can also act as a direct chaperone of p53, both under physiological and stress conditions.[6] Beyond its function in eliminating damaged proteins, STUB1/CHIP's ubiquitylating activity could serve to mark proteins for degradation because they are no longer needed for specific cellular function, such as signaling events. In addition, it is able to degrade proteins that are signatures of disease, like ErbB2, involved in breast and ovarian cancers, and p-tau accumulated in neurodegenerative diseases.[7,8] CHIP can therefore be a promising target for pharmacological intervention in various pathologies.

Reagent

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

Antibody concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

This product is 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 continuous use, store at 2-8 °C for up to one month. 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. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 2.5-5 µg/mL is recommended using HeLa total cell extract.

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

References

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