3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Anti-CHIP (C-terminal)
produced in rabbit, affinity isolated antibody

Product Number **C9243**

Product Description

Anti-CHIP (C-terminal) is produced in rabbit using as immunogen a synthetic peptide corresponding to a sequence at the C-terminal of human CHIP (GeneID 10273) conjugated to KLH. This sequence is identical in mouse and rat CHIP. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-CHIP (C-terminal) specifically recognizes human, mouse, and rat CHIP by immunoblotting (~35 kDa). Staining of the CHIP band by immunoblotting is specifically inhibited by the CHIP immunizing peptide.

The correct folding of newly synthesized or damaged proteins occurs in a highly regulated fashion. Cytosolic chaperones such as Hsp70 are assisted by cofactors that modulate the activity of the folding machinery. CHIP (carboxy terminus of Hsp70-interacting protein, also known as STIP1-homology and U-box containing protein 1, STUB1, HSPABP2, NY-CO-7, SDCCAG7, UBOX1) is a dual-function chaperone/E3 ubiquitin ligase, that plays a central role in regulating protein quality control at multiple levels.[1-3] CHIP has 3 functional domains: a N-terminal tetratricopeptide repeat (TPR), a U-box at its C-terminus, and a highly charged internal region. CHIP interacts with and ubiquitinates Hsp70 and enhances refolding of stress damaged proteins.[3] In addition, CHIP has E3 ubiquitin ligase activity and triggers proteasome degradation of irreversibly damaged proteins to prevent cellular toxicity. CHIP and Hsp70 regulate the ubiquitination, aggregation and degradation of several proteins involved in neurodegenerative disorders including tau, Huntingtin, Cu/Zn SOD1, ataxin-1, and α-synuclein.[4-6] CHIP suppresses the aggregation and toxicity of polyglutamine (polyQ) expanded proteins[6] and is a physiological regulator of stress-dependent apoptosis, in part through inhibitory interaction with ASK1-dependent pro-apoptotic signaling pathway.[7]

Reagent

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

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the 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 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 dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1–2 μg/mL is recommended using HEK-293T cells lysate and mouse brain extract (S2 fraction).

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

1. Ballinger, C.A. et al., *Mol. Cell. Biol.*, **19**, 4535-4545 (1999).
2. Qian, S-B. et al., *Nature,* **440**, 551-555 (2006).
3. Jiang, J. et al., *J. Biol. Chem.,* **276**, 42938-42944 (2001).
4. Petrucelli, L. et al., *Hu. Mol. Genet.,* **13**, 703-714 (2004).
5. Shin, Y. et al., *J. Biol. Chem.,* **280**, 23727-23734 (2005).
6. Miller, V.M. et al., *J. Neurosci.*, **25**, 9152-9161 (2005).
7. Hwang, J.R. et al., *Cell Stress Chaperones*, **10**, 147-156 (2005).

VS,ER,KAA,PHC 12/18-1