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Product Information

Anti-Sumo-2/3 antibody, Rat monoclonal
clone 3H12, purified from hybridoma cell culture

Product Number: **SAB4200190**

Product Description

Anti-Sumo-2/3 (rat IgG2a isotype) is derived from the hybridoma 3H12 produced by the fusion of mouse myeloma cells and splenocytes from rat immunized with a human SUMO3 (GeneID: 6612) fusion protein. The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Anti-Sumo-2/3 recognizes human, mouse and rat Sumo 2/3 and sumoylated proteins. The product may be used in various immunochemical techniques including immunoblotting (Sumo-2/3: ~11 kDa; apparent ~17kDa) and immunocytochemistry

Small ubiquitin-like modifier (SUMO) was identified as a post-translational protein modifier. It functions in a manner similar to ubiquitin in that it is bound to target proteins as part of a post-translational modification system. However, unlike ubiquitin, which targets proteins for degradation, SUMOylation is involved in a variety of cellular processes, such as nuclear transport, transcriptional regulation, apoptosis, and protein stability. There are four members in the SUMO family, of which SUMO1–SUMO3 are ubiquitously expressed, whereas SUMO4 is mainly expressed in the lymph system. SUMO2 and SUMO3 are 97% identical (thus referred to as SUMO2/3), but share only 50% sequence identity with SUMO1.[1] SUMO-2/3 localize to centromeres and condensed chromosomes, whereas SUMO-1 localizes to the mitotic spindle and spindle midzone, indicating that SUMO paralogues regulate distinct mitotic processes in mammalian cells.[2] Consistent with this, SUMO-2/3 was found to have protein targets, signaling properties and functions that are unique from those of SUMO-1. SUMO-2/3 conjugation is preferentially up-regulated in response to cell stress and SUMO-2/3 are more mobile within the nucleus relative to SUMO-1.[3] Nevertheless, in vivo, SUMO2/3 were able to compensate for the lack of SUMO1, suggesting redundancy is an important cellular strategy for maintaining sumoylation levels above critical thresholds.[4]

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

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

Store at −20 °C. 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 dilution of 2-4 mg/mL is recommended using HeLa cell nuclear extract

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

References

1. Zuo, Y., and Cheng, J.K., Asian J. Androl., 11, 36- 38 (2009)
2. Zhang, X.D., et al., Mol. Cell, 29, 729-741 (2008).
3. Ayaydin, F., and Dasso, M., Mol. Biol. Cell, 15, 5208-5218 (2004).
4. Evdokimov, E., et al., J. Cell Sci., 121, 4106-4113 (2008).

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