

AOS-1 (h2): 293T Lysate: sc-159151

BACKGROUND

Proteolytic degradation by the ubiquitin (Ub) system is essential for normal cell cycle progression, cellular differentiation and stress responses. Proteins conjugated to Ub are marked for progressive degradation by the 26S Proteasome. AOS-1, also designated SUMO-1-activating enzyme or ubiquitin-like 1-activating enzyme E1A, belongs to the ubiquitin-activating E1 family of proteins and plays an important role in the first step of the UBL1 conjugation pathway. AOS-1, which is a dimeric enzyme, functions as a UBL1 E1 ligase, mediating the ATP-dependent activation of UBL1. AOS-1 can bind with UBLE1A and UBLE1B to form a heterodimer which can bind UBL1.

REFERENCES

1. Desterro, J.M., Rodriguez, M.S. and Hay, R.T. 1998. SUMO-1 modification of I κ B- α inhibits NF κ B activation. *Mol. Cell* 2: 233-239.
2. Okuma, T., Honda, R., Ichikawa, G., Tsumagari, N. and Yasuda, H. 1999. *In vitro* SUMO-1 modification requires two enzymatic steps, E1 and E2. *Biochem. Biophys. Res. Commun.* 254: 693-698.
3. Gong, L., Li, B., Millas, S. and Yeh, E.T. 1999. Molecular cloning and characterization of human AOS-1 and UBA2, components of the sentrin-activating enzyme complex. *FEBS Lett.* 448: 185-189.
4. Desterro, J., J.M., Rodriguez, M.S., Kemp, G.D. and Hay, R.T. 1999. Identification of the enzyme required for activation of the small ubiquitin-like protein SUMO-1. *J. Biol. Chem.* 274: 10618-10624.
5. Engelhardt, O.G., Illich, E., Kochs, G. and Haller, O. 2001. Interferon-induced antiviral Mx1 GTPase is associated with components of the SUMO-1 system and promyelocytic leukemia protein nuclear bodies. *Exp. Cell Res.* 271: 286-295.
6. Pichler, A., Knipscheer, P., Saitoh, H., Sixma, T.K. and Melchior, F. 2004. The RanBP2 SUMO E3 ligase is neither HECT nor RING type. *Nat. Struct. Mol. Biol.* 11: 984-991.
7. Lois, L.M. and Lima, C.D. 2005. Structures of the SUMO E1 provide mechanistic insights into SUMO activation and E2 recruitment to E1. *EMBO J.* 24: 439-451.

CHROMOSOMAL LOCATION

Genetic locus: SAE1 (human) mapping to 19q13.32.

PRODUCT

AOS-1 (h2): 293T Lysate represents a lysate of human AOS-1 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

AOS-1 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive AOS-1 antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

For research use only, not for use in diagnostic procedures.