

α/β -centractin (H-300): sc-67321

BACKGROUND

The dynactin complex is a macromolecular complex that consists of 10-11 distinct subunits. This complex is critical for the function of dynein, a molecular motor protein. Dynactin plays a role in ER to Golgi transport, spindle formation, chromosome movement, axon guidance, nuclear positioning and the centripetal movement of lysosomes and endosomes. Centractin is a subunit of the dynactin complex that exists in multiple isoforms. The α isoform, also known as actin-related protein 1 homolog A (Arp1) and previously referred to as centractin, is the most abundant isoform in the dynactin complex. The β isoform, also known as actin-related protein 1 homolog B, shares 90% identity with the α isoform. The two isoforms, α and β , are expressed at a ratio of 15:1 respectively. The backbone filament structure of the dynactin complex (important for the arrangement of other complex proteins) is composed of 9-11 subunits of α/β -centractin.

REFERENCES

- Clark, S.W., et al. 1995. β -centractin: characterization and distribution of a new member of the centractin family of actin-related proteins. *Mol. Biol. Cell* 5: 1301-1310.
- Bingham, J.B., et al. 1999. Self-regulated polymerization of the actin-related protein Arp1. *Curr. Biol.* 9: 223-226.
- Elsa, S.H., et al. 1999. Assignment of β -centractin (CTR2) to human chromosome 2 bands q11.1→q11.2 with somatic cell hybrids and *in situ* hybridization. *Cytogenet. Cell Genet.* 84: 48-49.
- Eaton, B.A., et al. 2002. Dynactin is necessary for synapse stabilization. *Neuron* 34: 729-741.
- Cuadrado-Tejedor, M., et al. 2005. Changes in cytoskeletal gene expression linked to MPTP-treatment in mice. *Neurobiol. Dis.* 20: 666-672.
- Hodgkinson, J.L., et al. 2005. Three-dimensional reconstruction of the Dynactin complex by single-particle image analysis. *Proc. Natl. Acad. Sci. USA* 102: 3667-3672.
- Igarashi, R., et al. 2006. Molecular dissection of Arp1 regions required for nuclear migration and cell wall integrity checkpoint functions in *Saccharomyces cerevisiae*. *Cell Struct. Funct.* 30: 57-67.
- Haghnia, M., et al. 2007. Dynactin is required for coordinated bidirectional motility, but not for Dynein membrane attachment. *Mol. Biol. Cell* 18: 2081-2089.

CHROMOSOMAL LOCATION

Genetic locus: ACTR1A (human) mapping to 10q24.32, ACTR1B (human) mapping to 2q11.2; Actr1a (mouse) mapping to 19 C3, Actr1b (mouse) mapping to 1 B.

SOURCE

α/β -centractin (H-300) is a rabbit polyclonal antibody raised against amino acids 77-376 mapping at the C-terminus of α -centractin of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

α/β -centractin (H-300) is recommended for detection of α -centractin and β -centractin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

α/β -centractin (H-300) is also recommended for detection of α -centractin and β -centractin in additional species, including equine, canine, bovine, porcine and avian.

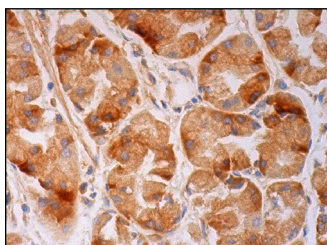
Molecular Weight of α -centractin: 43 kDa.

Molecular Weight of β -centractin: 42 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



α/β -centractin (H-300): sc-67321. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.