

α/β -centractin (Y-15): sc-54758

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

1. 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.
2. Elsea, S.H., et al. 1999. Assignment of β -centractin (CTRN2) to human chromosome 2 bands q11.1→q11.2 with somatic cell hybrids and *in situ* hybridization. *Cytogenet. Cell Genet.* 84: 48-49.
3. Bingham, J.B. and Schroer, T.A. 1999. Self-regulated polymerization of the Actin-related protein Arp1. *Curr. Biol.* 9: 223-226.
4. Eaton, B.A., et al. 2002. Dynactin is necessary for synapse stabilization. *Neuron* 34: 729-741.
5. Cuadrado-Tejedor, M., et al. 2005. Changes in cytoskeletal gene expression linked to MPTP-treatment in mice. *Neurobiol. Dis.* 20: 666-672.

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 (Y-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of α -centractin of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-54758 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and CHIP applications, sc-54758 X, 200 μ g/0.1 ml.

RESEARCH USE

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

APPLICATIONS

α/β -centractin (Y-15) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

α/β -centractin (Y-15) is also recommended for detection of α -centractin and β -centractin in additional species, including equine, canine, bovine, porcine and avian.

α/β -centractin (Y-15) X TransCruz antibody is recommended for Gel Supershift and CHIP applications.

Molecular Weight of α -centractin: 43 kDa.

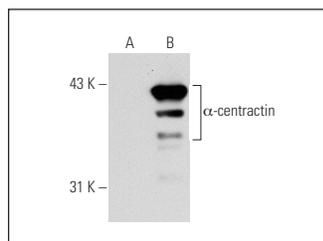
Molecular Weight of β -centractin: 42 kDa.

Positive Controls: α -centractin (h): 293T Lysate: sc-127874.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



α/β -centractin (Y-15): sc-54758. Western blot analysis of α -centractin expression in non-transfected: sc-117752 (A) and human α -centractin transfected: sc-127874 (B) 293T whole cell lysates.

STORAGE

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

PROTOCOLS

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