

α/β -centractin (A-7): sc-376010

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. 1994. 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., et al. 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.

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 (A-7) is a mouse monoclonal antibody raised against amino acids 77-376 mapping at the C-terminus of α -centractin of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

α/β -centractin (A-7) is available conjugated to agarose (sc-376010 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376010 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376010 PE), fluorescein (sc-376010 FITC), Alexa Fluor® 488 (sc-376010 AF488), Alexa Fluor® 546 (sc-376010 AF546), Alexa Fluor® 594 (sc-376010 AF594) or Alexa Fluor® 647 (sc-376010 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376010 AF680) or Alexa Fluor® 790 (sc-376010 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

α/β -centractin (A-7) is recommended for detection of α -centractin and β -centractin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 (A-7) is also recommended for detection of α -centractin and β -centractin in additional species, including equine, canine, bovine and porcine.

Molecular Weight of α -centractin: 43 kDa.

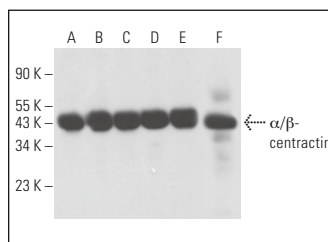
Molecular Weight of β -centractin: 42 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, KNRK whole cell lysate: sc-2214 or Neuro-2A whole cell lysate: sc-364185.

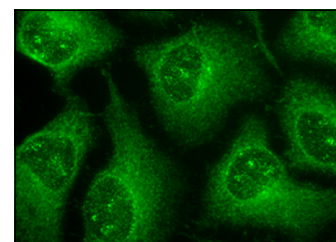
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



α/β -centractin (A-7): sc-376010. Western blot analysis of α/β -centractin expression in Caki-1 (A), KNRK (B), AMJZ-C8 (C), Neuro-2A (D) and EOC 20 (E) whole cell lysates and human heart tissue extract (F).



α/β -centractin (A-7): sc-376010. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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