

BAF53 (E-3): sc-137062

The Power to Question

BACKGROUND

The SWI/SNF complex regulates gene expression via ATP-dependent chromatin remodeling. Brm (SNF2-a), Brg-1 (SNF2-b), Ini1 (integrase interactor 1, SNF5), BAF53 (ARPN β), BAF57, BAF155 (SRG3), and BAF170 make up the functional core. BAF53 homologues from yeast to humans contain a conserved N-terminal motif, which contains residues at serine 2 and tyrosine 6, which play important roles in BAF53 activity. The BAF53 protein shuttles between the nucleus and cytoplasm. BAF53 also forms a complex with TIP49 and TIP48, which mediates c-Myc oncogenic activity.

REFERENCE

1. Imbalzano, A.N., et al. 1996. Nucleosome disruption by human SWI/SNF is maintained in the absence of continued ATP hydrolysis. *J. Biol. Chem.* 271: 20726-20733.
2. Phelan, M.L., et al. 1999. Reconstitution of a core chromatin remodeling complex from SWI/SNF subunits. *Mol. Cell* 3: 247-253.

CHROMOSOMAL LOCATION

Genetic locus: ACTL6A (human) mapping to 3q26.33; Actl6a (mouse) mapping to 3 A3.

SOURCE

BAF53 (E-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 87-129 near the N-terminus of BAF53 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-137062 X, 200 μ g/0.1 ml.

BAF53 (E-3) is available conjugated to agarose (sc-137062 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-137062 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137062 PE), fluorescein (sc-137062 FITC), Alexa Fluor[®] 488 (sc-137062 AF488), Alexa Fluor[®] 546 (sc-137062 AF546), Alexa Fluor[®] 594 (sc-137062 AF594) or Alexa Fluor[®] 647 (sc-137062 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-137062 AF680) or Alexa Fluor[®] 790 (sc-137062 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-137062 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

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 for detailed protocols and support products.

APPLICATIONS

BAF53 (E-3) is recommended for detection of BAF53 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), 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).

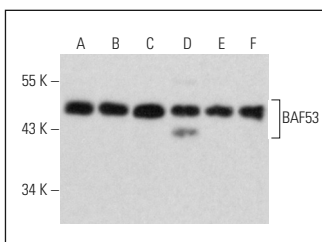
BAF53 (E-3) is also recommended for detection of BAF53 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for BAF53 siRNA (h): sc-60239, BAF53 siRNA (m): sc-60240, BAF53 shRNA Plasmid (h): sc-60239-SH, BAF53 shRNA Plasmid (m): sc-60240-SH, BAF53 shRNA (h) Lentiviral Particles: sc-60239-V and BAF53 shRNA (m) Lentiviral Particles: sc-60240-V.

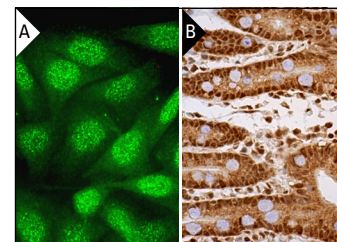
BAF53 (E-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of BAF53: 45 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, NRK whole cell lysate: sc-364197 or C6 whole cell lysate: sc-364373.

DATA

BAF53 (E-3): sc-137062. Western blot analysis of BAF53 expression in Hep G2 (A), RT-4 (B), NIH/3T3 (C), BW5147 (D), NRK (E) and C6 (F) whole cell lysates.



BAF53 (E-3): sc-137062. Immunofluorescence staining of formalin-fixed SW480 cells showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing nuclear and cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

1. Taulli, R., et al. 2014. Failure to downregulate the BAF53a subunit of the SWI/SNF chromatin remodeling complex contributes to the differentiation block in rhabdomyosarcoma. *Oncogene* 33: 2354-2362.
2. Huang, X., et al. 2021. OCT4 cooperates with distinct ATP-dependent chromatin remodelers in naïve and primed pluripotent states in human. *Nat. Commun.* 12: 5123.
3. Beon, J., et al. 2022. Inositol polyphosphate multikinase physically binds to the SWI/SNF complex and modulates BRG1 occupancy in mouse embryonic stem cells. *Elife* 11: e73523.

RESEARCH USE

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