SANTA CRUZ BIOTECHNOLOGY, INC.

Scleraxis (A-7): sc-518082

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Transcription factors are proteins that bind DNA adjacent to genes and control the production of mRNA transcripts. Scleraxis (basic helix-loop-helix transcription factor scleraxis) is a 201 amino acid protein that dimerizes with another bHLH protein to initiate transcription. Scleraxis is known to play a role in formation of mesoderm and somite-derived chondrogenic lineages. Scleraxis localizes to the nucleus and contains one bHLH domain. bHLH transcription factors, in general, function in cellular differentiation, proliferation, and oncogene regulation. The gene encoding Scleraxis maps to human chromosome 8, which consists of nearly 146 million base pairs, houses more than 800 genes and is associated with a variety of diseases and malignancies. Schizophrenia, bipolar disorder, Trisomy 8, Pfeiffer syndrome, congenital hypothyroidism, Waardenburg syndrome and some leukemias and lymphomas are thought to occur as a result of defects in specific genes that map to chromosome 8.

REFERENCES

1. Kadesch, T. 1993. Consequences of heteromeric interactions among helix-loop-helix proteins. Cell Growth Differ. 4: 49-55.
2. Olson, E.N. and Klein, W.H. 1994. bHLH factors in muscle development: dead lines and commitments, what to leave in and what to leave out. Genes Dev. 8: 1-8.
3. Cserjesi, P., et al. 1995. Scleraxis: a basic helix-loop-helix protein that prefigures skeletal formation during mouse embryogenesis. Development 121: 1099-1110.

CHROMOSOMAL LOCATION

Genetic locus: SCX (human) mapping to 8q24.3; Scx (mouse) mapping to 15 D3.

SOURCE

Scleraxis (A-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 10-29 near the N-terminus of Scleraxis of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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-518082 X, 200 µg/0.1 ml.

Scleraxis (A-7) is available conjugated to agarose (sc-518082 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-518082 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518082 PE), fluorescein (sc-518082 FITC), Alexa Fluor® 488 (sc-518082 AF488), Alexa Fluor® 546 (sc-518082 AF546), Alexa Fluor® 594 (sc-518082 AF594) or Alexa Fluor® 647 (sc-518082 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518082 AF680) or Alexa Fluor® 790 (sc-518082 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

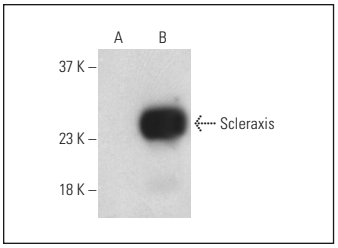
Scleraxis (A-7) is recommended for detection of Scleraxis of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Scleraxis (A-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

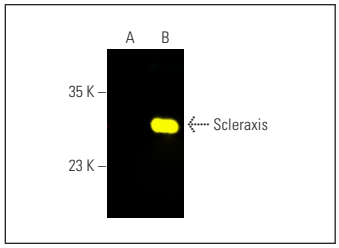
Molecular Weight of Scleraxis: 22 kDa.

Positive Controls: Scleraxis (m): 293T Lysate: sc-123384.

DATA



Scleraxis (A-7) HRP: sc-518082 HRP. Direct western blot analysis of Scleraxis expression in non-transfected: sc-117752 (**A**) and mouse Scleraxis transfected: sc-123384 (**B**) 293T whole cell lysates.



Scleraxis (A-7): sc-518082. Fluorescent western blot analysis of Scleraxis expression in non-transfected: sc-117752 (**A**) and mouse Scleraxis transfected: sc-123384 (**B**) 293T whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_{2a} BP-CFL 488: sc-542735.

SELECT PRODUCT CITATIONS

1. Ground, M., et al. 2022. Fibroblast growth factor 2 inhibits myofibroblastic activation of valvular interstitial cells. PLoS ONE 17: e0270227.
2. Mao, D., et al. 2022. Galunisertib attenuates progression of trauma-induced heterotopic ossification via blockage of Smad2/3 signaling in mice. Eur. J. Pharmacol. 928: 175109.
3. Ye, T., et al. 2022. Large extracellular vesicles secreted by human iPSC-derived MSCs ameliorate tendinopathy via regulating macrophage heterogeneity. Bioact. Mater. 21: 194-208.
4. Hasan, M.R., et al. 2023. RAB23 regulates musculoskeletal development and patterning. Front. Cell Dev. Biol. 11: 1049131.
5. Zhang, T., et al. 2023. Single-cell RNA sequencing reveals cellular and molecular heterogeneity in fibrocartilaginous enthesis formation. Elife 12: e85873.
6. He, Y., et al. 2024. Pharmacological modulation of gp130 signalling enhances Achilles tendon repair by regulating tenocyte migration and collagen synthesis via SHP2-mediated crosstalk of the ERK/AKT pathway. Biochem Pharmacol. 226: 116370.

STORAGE

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