

Scleraxis (D-14): sc-87425

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

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- 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.
- Cserjesi, P., et al. 1995. Scleraxis: a basic helix-loop-helix protein that prefigures skeletal formation during mouse embryogenesis. *Development* 121: 1099-1110.
- Atchley, W.R. and Fitch, W.M. 1997. A natural classification of the basic helix-loop-helix class of transcription factors. *Proc. Natl. Acad. Sci. USA* 94: 5172-5176.
- Brent, A.E., et al. 2003. A somitic compartment of tendon progenitors. *Cell* 113: 235-248.
- Wilson-Rawls, J., et al. 2004. Paraxis is a basic helix-loop-helix protein that positively regulates transcription through binding to specific E-box elements. *J. Biol. Chem.* 279: 37685-37692.

CHROMOSOMAL LOCATION

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

SOURCE

Scleraxis (D-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Scleraxis of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-87425 P, (100 µg 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-87425 X, 100 µg/0.1 ml.

APPLICATIONS

Scleraxis (D-14) is recommended for detection of Scleraxis of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

Suitable for use as control antibody for Scleraxis siRNA (h): sc-77791, Scleraxis siRNA (m): sc-153257, Scleraxis shRNA Plasmid (h): sc-77791-SH, Scleraxis shRNA Plasmid (m): sc-153257-SH, Scleraxis shRNA (h) Lentiviral Particles: sc-77791-V and Scleraxis shRNA (m) Lentiviral Particles: sc-153257-V.

Scleraxis (D-14) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

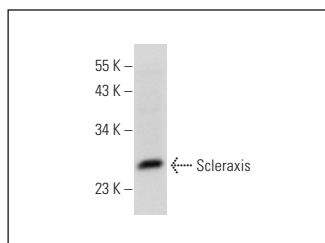
Molecular Weight of Scleraxis: 22 kDa.

Positive Controls: mouse liver extract: sc-2256.

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



Scleraxis (D-14): sc-87425. Western blot analysis of Scleraxis expression in mouse liver tissue extract.

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.