

# HIRA (N-20): sc-18209

## BACKGROUND

HIRA is the human homologue of yeast Hir1p and Hir2p and is a widely expressed nuclear protein involved in cell cycle regulation. Specifically, HIRA is essential during development, possibly through the control of specific gene transcription programs. During development, HIRA is highly expressed in regions that contain neural crest cells. Cyclin dependent kinase 2 (cdk-2) and Cyclin A bind with HIRA at an RXL motif which results in phosphorylation of the substrate at Thr 555. Ectopic expression of HIRA results in cell cycle arrest in S phase. HIRA also contains seven copies of a WD repeat and exhibits histone binding properties, suggesting that HIRA may function as a regulator of histone gene expression. The TUPLE1 gene encodes the 1017 amino acid HIRA and maps to human chromosome 22q11.21, an area known to be the critical region of DiGeorge Syndrome (DGS). DGS is a congenital disease characterized by defects in tissues and organs, whose development depends on cell populations derived from the neural crest.

## REFERENCES

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- Lamour, V., et al. 1995. A human homolog of the *S. cerevisiae* HIR1 and HIR2 transcriptional repressors cloned from the DiGeorge syndrome critical region. *Hum. Mol. Genet.* 5: 791-799.
- Lorain, S., et al. 1996. Structural organization of the WD repeat protein-encoding gene HIRA in the DiGeorge syndrome critical region of human chromosome 22. *Genome Res.* 1: 43-50.
- Farrell, M.J., et al. 1999. HIRA, a DiGeorge syndrome candidate gene, is required for cardiac outflow tract septation. *J. Clin. Invest.* 12: 1509-1517.
- De Lucia, F., et al. 2001. Subnuclear localization and mitotic phosphorylation of HIRA, the human homologue of *Saccharomyces cerevisiae* transcriptional regulators Hir1p/Hir2p. *Biochem. J.* 358: 447-455.
- Hall, C., et al. 2001. HIRA, the human homologue of yeast Hir1p and Hir2p, is a novel cyclin-cdk2 substrate whose expression blocks S-phase progression. *Mol. Cell. Biol.* 5: 1854-1865.

## CHROMOSOMAL LOCATION

Genetic locus: HIRA (human) mapping to 22q11.21; Hira (mouse) mapping to 16 A3.

## SOURCE

HIRA (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of HIRA 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-18209 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

HIRA (N-20) is recommended for detection of HIRA of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

HIRA (N-20) is also recommended for detection of HIRA in additional species, including canine and avian.

Suitable for use as control antibody for HIRA siRNA (h): sc-43836, HIRA siRNA (m): sc-44347, HIRA shRNA Plasmid (h): sc-43836-SH, HIRA shRNA Plasmid (m): sc-44347-SH, HIRA shRNA (h) Lentiviral Particles: sc-43836-V and HIRA shRNA (m) Lentiviral Particles: sc-44347-V.

Molecular Weight of HIRA: 112 kDa.

## 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) 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.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **HIRA (374C6a): sc-130636**, our highly recommended monoclonal alternative to HIRA (N-20).