

Hemoglobin α (N-13): sc-22715

BACKGROUND

Hemoglobin (Hgb) is coupled to four iron-binding, methene-linked tetrapyrrole rings (heme). The α (16p13.3; 5'- ζ -pseudoz-pseudo α 2-pseudo α 1- α 2- α 1- α 1-3') and β (11p15.5) globin loci determine the basic hemoglobin structure. The globin portion of hemoglobin consists of two α chains and two β chains arranged in pairs forming a tetramer. Each of the four globin chains covalently associates with a heme group. The bonds between α and β chains are weaker than between similar globin chains, thereby forming a cleavage plane that is important for oxygen binding and release. High affinity for oxygen occurs upon relaxation of the α 1- β 2 cleavage plane. When the two α 1- β 2 interfaces are closely bound, hemoglobin has a low affinity for oxygen. Hb A, which contains two α chains plus two β chains, comprises 97% of total circulating hemoglobin. The remaining 3% of total circulating hemoglobin is comprised of Hb A-2, which consists of two α chains plus two δ chains, and fetal hemoglobin (Hb F), which consists of two α chains together with two γ chains.

REFERENCES

- Liebhaber, S.A., Goossens, M. and Kan, Y.W. 1981. Homology and concerted evolution at the α 1 and α 2 loci of human α -globin. *Nature* 290: 26-29.
- Goodbourn, S.E., Higgs, D.R., Clegg, J.B. and Weatherall, D.J. 1983. Molecular basis of length polymorphism in the human ζ -globin gene complex. *Proc. Natl. Acad. Sci. USA* 80: 5022-5026.
- Giardina, B., Messina, I., Scatena, R. and Castagnola, M. 1995. The multiple functions of hemoglobin. *Crit. Rev. Biochem. Mol. Biol.* 30: 165-196.

CHROMOSOMAL LOCATION

Genetic locus: HBA1 (human) mapping to 16p13.3; Hba1 (mouse) mapping to 11 A4.

SOURCE

Hemoglobin α (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Hemoglobin α of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-22715 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 or our catalog for detailed protocols and support products.

APPLICATIONS

Hemoglobin α (N-13) is recommended for detection of Hemoglobin α of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, 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).

Suitable for use as control antibody for Hemoglobin α siRNA (h): sc-41230, Hemoglobin α siRNA (m): sc-41231, Hemoglobin α shRNA Plasmid (h): sc-41230-SH, Hemoglobin α shRNA Plasmid (m): sc-41231-SH, Hemoglobin α shRNA (h) Lentiviral Particles: sc-41230-V and Hemoglobin α shRNA (m) Lentiviral Particles: sc-41231-V.

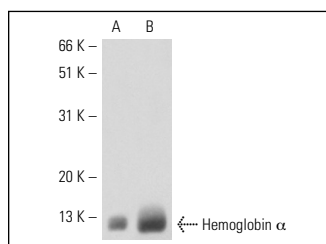
Molecular Weight of Hemoglobin α : 10 kDa.

Positive Controls: TF-1 cell lysate: sc-2412, HEL 92.1.7 cell lysate sc-2270 or K-562 whole cell lysate: sc-2203.

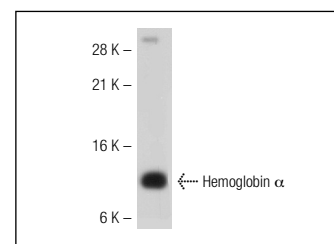
RECOMMENDED SECONDARY REAGENTS

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



Hemoglobin α (N-13): sc-22715. Western blot analysis of Hemoglobin α expression in K-562 (A) and human PBL (B) whole cell lysates.



Hemoglobin α (N-13): sc-22715. Western blot analysis of Hemoglobin α expression in K-562 whole cell lysate.

RESEARCH USE

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



Try **Hemoglobin α (D-4): sc-514378** or **Hemoglobin α (B-10): sc-514851**, our highly recommended monoclonal alternatives to Hemoglobin α (N-13). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Hemoglobin α (D-4): sc-514378**.