

Hemoglobin α (H-80): sc-21005

BACKGROUND

Hemoglobin (Hgb) is coupled to four iron-binding, methene-linked tetrapyrrole rings (heme). The α (16p13.3; 5'- ζ -pseudo ζ -pseudo α 2-pseudo α 1- α 2- α 1- θ 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.

CHROMOSOMAL LOCATION

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

SOURCE

Hemoglobin α (H-80) is a rabbit polyclonal antibody raised against amino acids 62-142 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.

Hemoglobin α (H-80) is available conjugated to agarose (sc-21005 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP.

APPLICATIONS

Hemoglobin α (H-80) is recommended for detection of Hemoglobin α of mouse, rat and human 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).

Hemoglobin α (H-80) is also recommended for detection of Hemoglobin α in additional species, including canine, bovine and porcine.

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.

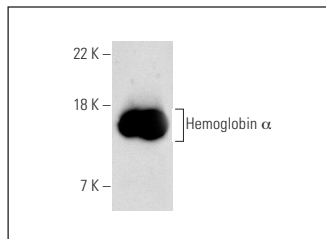
Molecular Weight of Hemoglobin α : 16 kDa.

Positive Controls: human PBL whole cell lysate, mouse heart extract: sc-2254 or K-562 whole cell lysate: sc-2203.

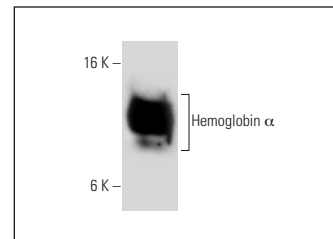
STORAGE

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

DATA



Hemoglobin α (H-80): sc-21005. Western blot analysis of Hemoglobin α expression in human PBL whole cell lysate.



Hemoglobin α (H-80): sc-21005. Western blot analysis of Hemoglobin α expression in K-562 whole cell lysate.

SELECT PRODUCT CITATIONS

- Hasty, D.L., et al. 2006. Monocyte and macrophage activation by Lipoteichoic Acid is independent of alanine and is potentiated by hemoglobin. *J. Immunol.* 176: 5567-5576.
- Chung, L., et al. 2006. Novel biomarkers of human growth hormone action from serum proteomic profiling using protein chip mass spectrometry. *J. Clin. Endocrinol. Metab.* 91: 671-677.
- Chung, L., et al. 2009. Detection of growth hormone responsive proteins using SELDI-TOF mass spectrometry. *Growth Horm. IGF Res.* 19: 383-387.
- Wang, B., et al. 2010. Transgenic human α -Hemoglobin stabilizing protein could partially relieve β IVS-2-654-thalassemia syndrome in model mice. *Hum. Gene Ther.* 21: 149-156.
- Wong, S., et al. 2010. Establishment of an erythroid cell line from primary CD36⁺ erythroid progenitor cells. *Exp. Hematol.* 38: 994-1005.
- Ishikawa, N., et al. 2010. Hemoglobin α and β are ubiquitous in the human lung, decline in idiopathic pulmonary fibrosis but not in COPD. *Respir. Res.* 11: 123.
- Lee, J.H., et al. 2010. Fibrillar superstructure formation of Hemoglobin A and its conductive, photodynamic and photovoltaic effects. *Acta Biomater.* 6: 4689-4697.
- Tommila, M., et al. 2010. Hemoglobin expression in rat experimental granulation tissue. *J. Mol. Cell Biol.* 3: 190-196.

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 (H-80). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Hemoglobin α (D-4): sc-514378**.