**BACKGROUND**

Hemoglobin (Hgb) is coupled to four iron-binding, methene-linked tetrapyrole rings (heme). The $\alpha$ (16p13.3; 5'-pseudoG-pseudoC-pseudoC-pseudoC-1'-pseudoC) and $\beta$ (11p15.5) globin loci determine the basic Hgb structure. The globin portion of Hemoglobin consists of two $\alpha$ chains and two $\beta$ chains arranged in pairs forming a tetramer. Each of the four globin chains covalently associates with a heme group. The bonds between $\alpha$ and $\beta$ 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 $\alpha_1$-$\beta_2$ cleavage plane. When the two $\alpha_1$-$\beta_2$ interfaces are closely bound, Hemoglobin has a low affinity for oxygen. Hb A, which contains two $\alpha$ chains plus two $\beta$ chains, comprises 97% of total circulating hemoglobin. The remaining 3% of total circulating hemoglobin is comprised of Hb A-2, which consists of 2 $\alpha$-chains plus 2 $\beta$ chains, and fetal hemoglobin (Hb F), which consists of 2 $\alpha$ chains together with 2 $\gamma$ chains.

**CHROMOSOMAL LOCATION**

Genetic locus: HBG2/HBG1 (human) mapping to 11p15.4.

**SOURCE**

Hemoglobin $\gamma$ (51-7) is a mouse monoclonal antibody raised against human hemoglobin.

**PRODUCT**

Each vial contains 200 µg IgG1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Hemoglobin $\gamma$ (51-7) is available conjugated to either phycoerythrin (sc-21756 PE) or fluorescein (sc-21756 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

**APPLICATIONS**

Hemoglobin $\gamma$ (51-7) is recommended for detection of Hemoglobin $\gamma$ of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for Hemoglobin $\gamma$ siRNA (h): sc-37108, Hemoglobin $\gamma$ shRNA Plasmid (h): sc-37108-SH and Hemoglobin $\gamma$ shRNA (h) Lentiviral Particles: sc-37108-V.

Molecular Weight of Hemoglobin $\gamma$: 18 kDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270 or TF-1 cell lysate: sc-2412.

**RESEARCH USE**

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

**PROTOCOLS**

See our web site at www.scbt.com for detailed protocols and support products.

**STORAGE**

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

**DATA**

Hemoglobin $\gamma$ (51-7) sc-21756. Western blot analysis of Hemoglobin $\gamma$ expression in HEL 92.1.7 (A) and TF-1 (B) whole cell lysates.

Hemoglobin $\gamma$ (51-7) sc-21756. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing cytoplasmic staining of macrophages at low (A) and high (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

**SELECT PRODUCT CITATIONS**


