

Hemoglobin A (beta chain) antibody

Cat#: orb420234 (Datasheet)

Overview

Description: Anti-HbA (MOUSE) Monoclonal Antibody

Size: 100 µg

Applications: ELISA, SDS-PAGE, WB, FC, LFA

Reactivity: Human

Host Species: Mouse

Product Details

Background: HbA antibodies detect the hemoglobin beta subunit wild type variant A isoform. Functional adult hemoglobin (Hb) is a hetero tetramer composed of 2 alpha and 2 beta subunits ($\alpha_2\beta_2$). Common isoform variants of hemoglobin include HbA, HbS, HbC, HbF, and HbA-2. Sickle cell disease (SCD), thalassemias and hemoglobinopathies occur when aberrant forms of hemoglobin are expressed in children and adults. Globin gene mutations affect the structure and expression levels of Hb. Sickle cell disease and the more benign sickle cell trait are observed in more than 100 million people globally. Perhaps the most significant mutation is the E6V in the beta subunit and the cause of SCD, but other relevant isoforms of Hb are observed. HbA antibody cross reacts with HbA-2 but does not react other forms Hb. This antibody is ideal for investigators involved in Cardiovascular and developmental biology research.

Synonyms: mouse anti-HbA antibody, mouse anti-hemoglobin antibody, Hemoglobin beta subunit, Hemoglobin subunit beta, Hemoglobin beta chain, HBB, HBA, Hb β Antibody, LVV-hemorphin-7, Spinorphin, Sickle Cell Disease (SCD)

Host Species: Mouse

Clonality: Monoclonal

Clone ID: 14G2.G11.F11

Target Details

Gene Name: HBB

Reactivity: Human

Immunogen Type: Peptide

Immunogen: Anti-Hemoglobin A (beta chain) Monoclonal Antibody was produced in mice by repeated immunizations with synthetic peptide corresponding to amino acid residues near the Nterminus of Hb β -subunit conjugated to KLH.

Purity/Specificity: This protein A purified mouse monoclonal antibody reacts specifically with human HbA beta

chain isoform. Anti-Hemoglobin beta β is purified from tissue culture supernatant by protein A purification. Blast analysis shows 100% homology to Human, Pan troglodytes, Pan paniscus, Gorilla gorilla gorilla, and Hylobates lar. This antibody does not react with the HbS, HbF (gamma), or HbC forms. HbA antibody cross reacts with HbA-2.

Relevant Links: • UniProtKB - P68871

- NCBI - NP_000509.1
- GeneID - 3043

Application Details

Tested Applications: ELISA, SDS-PAGE, WB

Suggested Applications: FC, LFA (Based on references)

Application Note: Anti-Hemoglobin A (beta chain) (MOUSE) antibody has been tested by ELISA, SDS-Page, and western blot. This antibody is designed for use in lateral flow. Specific conditions of reactivity should be optimized by the end user. Expect a band of approximately 16 kDa.

Assay Dilutions: All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.

ELISA: 1:20,000

WB: 1ug/mL

Formulation

Physical State: Liquid (sterile filtered)

Concentration: 1.04 mg/ml by UV absorbance at 280 nm

Buffer: 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2

Preservative: 0.01% (w/v) Sodium Azide

Stabilizer: None

Shipping & Handling

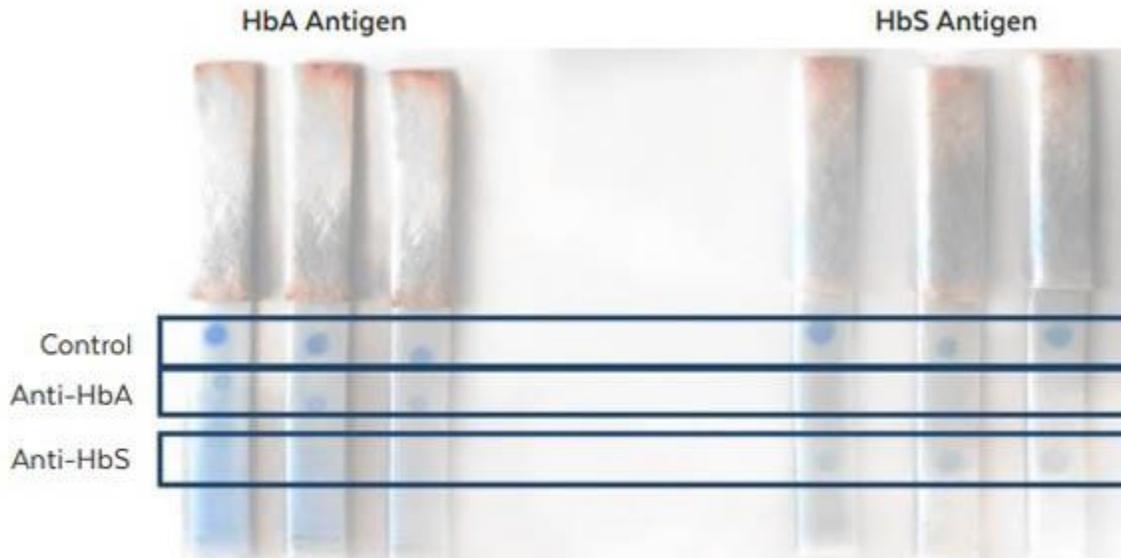
Shipping Condition: Dry Ice

Storage Condition: Store vial at -20° C prior to opening. This product is stable at 4° C as an undiluted liquid. For extended storage, aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Dilute only prior to immediate use.

Expiration: Expiration date is one (1) year from date of receipt.

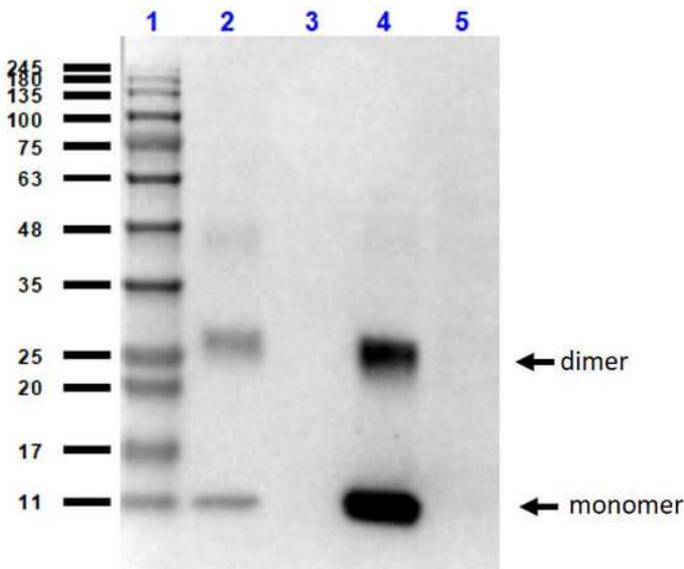
Images

Lateral Flow



Lateral Flow Results of Anti-HbA (Hemoglobin A) and Anti-HbS (Hemoglobin beta S) Antibodies. Triplicate test strips are spotted with a control, Anti-HbA antibody 0.5 μ L at 250 μ g/mL, and Anti-HbS antibody 0.5 μ L at 1mg/mL. Recombinant HbA (left group) or recombinant HbS (right group) are observed to react with the corresponding antibodies specifically, leading to blue dots. Image courtesy of team SickLED advised by Professors Xuanhong Cheng and Khanjan Mehta of Lehigh University, Bethlehem, Pennsylvania, USA.

Western Blot



Western Blot of Mouse Anti-human hemoglobin (HbA) Antibody. Lane 1: Opal Prestained Molecular Weight Marker. Lane 2: Human HbA (0.1 μ g) [+]. Lane 3: Human HbS (0.1 μ g) [-]. Lane 4: Human Heart Whole Cell

Lysate (2.0 μ g) [+]. Lane 5: Human HeLa Whole Cell Lysate (10.0 μ g) [-]. Primary Antibody: Anti-HbA at 1.0 μ g/mL overnight at 2-8°C. Secondary Antibody: Rabbit Anti-Mouse IgG (gamma 1, 2a, 2b and 3 chain) Antibody Peroxidase Conjugated at 1:40,000 at RT for 30 mins. Block: Block Out Buffer. Predicted MW: ~16kDa. Observed MW: ~11kDa monomer, ~25kDa dimer. Exposure: 30 sec.