



Recombinant Protein Technical Manual

Recombinant Human HBA1 Protein (His Tag)

RPES0491

Product Data:

Product SKU: RPES0491

Size: 10µg

Species: Human

Expression host: E. coli

Uniprot: P69905

Protein Information:

Molecular Mass: 16.7 kDa

AP Molecular Mass: 15 kDa

Tag: N-6His

Bio-activity:

Purity: > 95 % as determined by reducing SDS-PAGE.

Endotoxin: < 1.0 EU per µg as determined by the LAL method.

Storage: Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

Shipping: This product is provided as lyophilized powder which is shipped with ice packs.

Formulation: Lyophilized from a 0.2 µm filtered solution of 20mM PB, 150mM NaCl, pH 7.0.

Reconstitution: Please refer to the printed manual for detailed information.

Application:

Synonyms: Hemoglobin subunit alpha; Alpha-globin; Hemoglobin alpha chain; HBA1;HBH; HBA-T3

Immunogen Information:

Sequence: Met 1-Arg142

Background:

Hemoglobin subunit alpha 1 (HBA1), also known as $\alpha 2\beta 2$, is a hetero-tetramer consisting of two α and two β subunits held together by non-covalent interactions. Each subunit contains a heme group with an iron atom in the Fe²⁺ state. Cooperativity of Hemoglobin (Hb) in binding with O₂ and allosteric regulatory binding properties with CO₂, H⁺, Cl⁻, and 2,3-DPG (2,3-bisphosphoglycerate) are based on subunit interactions. HBA1 is the most common type of Hb in adult humans, which mediates the transport of oxygen and carbon dioxide in the blood. In recent years, Hb α and β chains have been found co-expressed in alveolar cells, mesangial cells of the kidney, retinal ganglion cells, hepatocytes and neurons. Endothelial and peripheral catecholaminergic cells express exclusively the α chain, while macrophages present the β chain only.