

HBA1 Protein, Human, Recombinant (His)

General Information

Synonyms:	α -globin; Hemoglobin subunit alpha; HBH; HBA-T3; Alpha-globin; Hemoglobin α chain; Hemoglobin alpha chain; Hemoglobin subunit α ; HBA1
Protein Construction:	Met1-Arg142
Species:	Human
Expression Host:	E. coli
Accession:	P69905
Molecular Weight:	15 KDa (reducing condition)
AA Sequence:	Met1-Arg142

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	Greater than 95% as determined by reducing SDS-PAGE. (QC verified)
Endotoxin:	< 0.1 ng/ μ g (1 EU/ μ g) as determined by LAL test.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ m filter, containing 20 mM Tris-HCl, 150 mM NaCl, 1 mM EDTA, pH 8.0.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μ g/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months.

Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein 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

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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.

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