



# Recombinant Protein Technical Manual

## Recombinant Human HBQ1 Protein (His Tag)

RPES0530

### Product Data:

**Product SKU:** RPES0530

**Size:** 10µg

**Species:** Human

**Expression host:** E. coli

**Uniprot:** P09105

### Protein Information:

**Molecular Mass:** 17.7 kDa

**AP Molecular Mass:** 15&30 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 theta; Hemoglobin theta chain; Theta-globin; HBQ1

## Immunogen Information:

**Sequence:** Met 1-Arg142

## Background:

Hemoglobin subunit theta is a protein that in humans is encoded by the HBQ1 gene. Theta-globin mRNA is originally found in human fetal erythroid tissue but not in adult erythroid or other nonerythroid tissue. Theta is a member of the human alpha-globin gene cluster that includes five functional genes and two pseudogenes. Research supports a transcriptionally active role for the gene and a functional role for the peptide in specific cells, possibly those of early erythroid tissue. Hemoglobin has a quaternary structure characteristically composed of many multi-subunit globular proteins. Most of the amino acids in hemoglobin form alpha helices, connected by short non-helical segments. Hydrogen bonds stabilize the helical sections inside this protein, causing attractions within the molecule, folding each polypeptide chain into a specific shape. Hemoglobin's quaternary structure comes from its four subunits in roughly a tetrahedral arrangement.