Recombinant CYGB protein (His tag)

Catalog Number	545563
Synonyms	Histoglobin; HGb; Nitric oxygen dioxygenase CYGB; NOD; Nitrite reductase CYGB; Pseudoperoxidase CYGB; Stellate cell activation-associated protein; Superoxide dismutase CYGB
Species	Human
Expression System	E. coli
Accession	Q8WWM9
Molecular Weight	Predictes a molecular mass of 23.06 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 24 kDa band.

Product Information

Sequence Region	1-190
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>85%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 1-190 aa (Q8WWM9) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human Cytoglobin (CYGB) fragment (amino acids 1-190) is a high-purity protein that encompasses the full Globin domain. This fragment serves as an essential tool for investigating the multifunctional roles of Cytoglobin, including nitric oxide metabolism, oxygen sensing, and oxidative stress response, in a controlled and domain-specific context. Cytoglobin (CYGB) is a hexacoordinate heme-containing globin expressed in Homo sapiens, with diverse enzymatic activities modulated by cellular redox conditions and oxygen availability. Under normoxia, it functions as a nitric oxide dioxygenase, potentially regulating vascular tone and vasodilation by scavenging nitric oxide. In hypoxic environments, it may act as a nitrite reductase to generate nitric oxide. Additionally, Cytoglobin exhibits pseudoperoxidase and superoxide dismutase activities, contributing to the detoxification of reactive oxygen species and protection against oxidative stress. While it binds oxygen with low affinity and may serve as an oxygen sensor, it is not involved in respiratory oxygen transport. The protein localizes to both the cytoplasm and nucleus, indicating roles in multiple cellular compartments. The recombinant fragment (1-190) includes the complete Globin domain, enabling focused studies on these multifunctional properties.