Recombinant NGB protein (His tag)

Catalog Number	546023
Synonyms	Nitrite reductase
Species	Human
Expression System	E. coli
Accession	Q9NPG2
Molecular Weight	Predictes a molecular mass of 18.59 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 19 kDa band.

Product Information

Sequence Region	1-151
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, 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 1-151 aa (Q9NPG2) 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 Neuroglobin (Nitrite Reductase) Fragment (1-151) – a high-purity, functional protein fragment encompassing the full globin domain, ideal for investigating oxygen transport, nitric oxide production, and neuroprotective signaling in hypoxic conditions. Neuroglobin (NGB) is a monomeric, six-coordinate heme-binding globin expressed in human neuronal tissues, encoded by the NGB gene (UniProt ID: Q9NPG2). It binds dioxygen, carbon monoxide, and nitric oxide, and while its role in oxygen transport is debated due to high oxygen affinity, it exhibits critical functions in hypoxia response. The ferrous/deoxygenated form acts as a nitrite reductase, generating nitric oxide to inhibit cellular respiration under low oxygen, and demonstrates guanine nucleotide dissociation inhibitor (GDI) activity toward G-alpha proteins, modulating signal transduction to promote neuroprotection against oxidative stress. Subcellularly, Neuroglobin localizes to the cytoplasm and cytosol, with enrichment in the mitochondrial matrix during oxygen-glucose deprivation, highlighting its importance in metabolic adaptation and neuronal survival pathways.