Recombinant PHAX protein (His tag)

Catalog Number	545959
Synonyms	RNA U small nuclear RNA export adapter protein
Species	Human
Expression System	E. coli
Accession	Q9H814
Molecular Weight	Predictes a molecular mass of 16.74 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 17 kDa band.

Product Information

Sequence Region	210-339
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>86%, 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 210-339 aa (Q9H814) 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 Phosphorylated adapter RNA export protein (PHAX) fragment (residues 210-339) - a highly stable and soluble protein domain ideal for structural and biochemical studies of RNA export mechanisms. This 130-amino acid fragment represents a computationally optimized region of PHAX, providing researchers with a reliable tool to investigate nuclear export processes without the complexities of working with the full-length phosphoprotein. Phosphorylated adapter RNA export protein (PHAX) is a critical phosphoprotein adapter that facilitates the export of U snRNAs from the nucleus through XPO1-mediated pathways. This protein serves as a molecular bridge, connecting the cap binding complex (CBC)-bound snRNA with the active GTP-bound form of Ran and the export receptor XPO1. The phosphorylation state of PHAX regulates its function - nuclear phosphorylation enables export complex assembly and RNA transport, while cytoplasmic dephosphorylation triggers complex disassembly. PHAX demonstrates strong binding affinity for m7G-capped U1 and U5 snRNAs in a phosphorylation-independent manner and also plays essential roles in U3 snoRNA biogenesis and transport from nucleoplasm to Cajal bodies. The protein shuttles dynamically between nuclear compartments (nucleoplasm and Cajal bodies) and the cytoplasm, with its compartmentalized phosphorylation cycle contributing to the directionality of nuclear export processes.