Recombinant CACO2 protein (His tag)

Catalog Number	540239
Synonyms	Antigen nuclear dot 52 kDa protein; Nuclear domain 10 protein NDP52; Nuclear domain 10 protein 52; Nuclear dot protein 52
Species	Human
Expression System	E. coli
Accession	Q13137
Molecular Weight	Predictes a molecular mass of 42.74 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 50 kDa band.

Product Information

Sequence Region	1-345
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>88%, 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 1-345 aa (Q13137) 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 CALCOCO2 (Calcium-binding and coiled-coil domain-containing protein 2) fragment (amino acids 1-345) is a stable and soluble protein unit ideal for studying autophagy-mediated intracellular bacterial degradation and cytoskeletal organization. This fragment, computationally optimized for structural and biochemical analyses, supports research in xenophagy and host-pathogen interactions. CALCOCO2, also known as Nuclear dot protein 52 (NDP52), is a xenophagy-specific receptor essential for autophagy-mediated degradation of intracellular bacteria. It functions as an effector protein that targets pathogens, such as Salmonella typhimurium, to autophagosomes upon galectin-sensed membrane damage, facilitating bacterial restriction and degradation. The protein initially directs bacteria to autophagosomes via interactions with MAP1LC3A, MAP1LC3B, or GABARAPL2, and subsequently regulates autophagosome maturation through MAP3LC3C binding. Additionally, CALCOCO2 may contribute to ruffle formation, actin cytoskeleton organization, and negatively regulate constitutive secretion. It localizes predominantly to the cytoplasm, including perinuclear regions, cytoskeletal structures, and autophagosome membranes, though its nuclear localization has been debated in the literature.