Recombinant BRE1A protein (His tag)

Catalog Number	545169
Synonyms	BRE1-A; hBRE1; RING finger protein 20; RING-type E3 ubiquitin transferase BRE1A
Species	Human
Expression System	E. coli
Accession	Q5VTR2
Molecular Weight	Predictes a molecular mass of 42.87 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 48 kDa band.

Product Information

Sequence Region	158-510
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 158-510 aa (Q5VTR2) 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 E3 ubiquitin-protein ligase BRE1A (RNF20) Fragment (aa 158-510) - A highly stable and soluble protein fragment engineered for structural and biochemical studies of this critical histone modification enzyme. This 353-amino acid fragment maintains key functional properties while offering enhanced experimental utility for researchers investigating epigenetic regulation and ubiquitin signaling pathways. E3 ubiquitin-protein ligase BRE1A (RNF20) is a nuclear enzyme that serves as a core component of the RNF20/40 E3 ubiquitin-protein ligase complex. This complex mediates the monoubiquitination of histone H2B at lysine 120 (H2BK120ub1), which functions as a specific epigenetic mark for transcriptional activation. H2BK120ub1 is essential for subsequent histone H3 methylation at lysine-4 and lysine-79 (H3K4me and H3K79me), positioning BRE1A as a central regulator of the histone code and gene expression. The enzyme also acts as a transcriptional coactivator, particularly at the MDM2 promoter where it is recruited by p53/TP53. Additionally, BRE1A mediates polyubiquitination of PA2G4 isoform 2 in cancer cells, leading to its proteasome-mediated degradation. Notably, BRE1A promotes the human herpesvirus 8 (KSHV) lytic cycle by inducing expression of viral genes including the latency switch gene RTA/ORF50. The protein is exclusively localized to the nucleus, consistent with its role in chromatin modification and transcriptional regulation.