Recombinant RB protein (His tag)

Catalog Number	544318
Synonyms	p105-Rb; p110-RB1; pRb; Rb; pp110
Species	Human
Expression System	E. coli
Accession	P06400
Molecular Weight	Predictes a molecular mass of 18.55 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 19 kDa band.

Product Information

Sequence Region	644-784
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, 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 644-784 aa (P06400) 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 Retinoblastoma-associated protein (p105-Rb) fragment (residues 644-784) from Homo sapiens, offering a stable and soluble unit for structural and biochemical studies of this critical tumor suppressor's function in cell cycle regulation. Retinoblastoma-associated protein (RB1) is a key tumor suppressor that regulates the G1/S transition of the cell cycle by binding and inhibiting E2F transcription factors, thereby preventing uncontrolled cell proliferation. It recruits chromatin-modifying enzymes like histone methyltransferases SUV39H1, KMT5B, and KMT5C to promote heterochromatin formation and transcriptional repression through histone H4 'Lys-20' trimethylation. RB1 also mediates repression via HDAC complexes and is inactivated by phosphorylation during cell cycle progression or through interactions with viral oncoproteins like SV40 large T antigen and HPV E7. It localizes primarily to the nucleus, with cytoplasmic presence observed in hyperphosphorylated states, and its acetylation supports nuclear retention during cellular differentiation.