Recombinant HSF1 protein (His tag)

Catalog Number	542527
Synonyms	HSF 1; Heat shock transcription factor 1; HSTF 1
Species	Human
Expression System	E. coli
Accession	Q00613
Molecular Weight	Predictes a molecular mass of 24.31 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 24 kDa band.

Product Information

Sequence Region	1-199
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 1-199 aa (Q00613) 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 Heat Shock Factor Protein 1 (HSF1) Fragment (aa 1-199) is a high-quality, stable protein product designed for structural and biochemical studies. This fragment, derived from the N-terminal region of HSF1, retains key properties for investigating the molecular mechanisms of heat shock response regulation and stress-induced transcription factor activity. Heat Shock Factor Protein 1 (HSF1) is a master transcriptional regulator that orchestrates the cellular heat shock response in humans. Under normal conditions, HSF1 exists in an inactive monomeric state complexed with chaperones like HSP90. Upon exposure to thermal and other cellular stresses, it undergoes homotrimerization and translocates to the nucleus, where it binds to heat shock elements (HSEs) in promoter regions to activate transcription of heat shock proteins (HSPs). These molecular chaperones protect proteins from stress-induced damage, ensuring cellular survival. Beyond its canonical role, HSF1 participates in diverse processes including mitotic progression, mRNA processing, DNA repair regulation, and even HIV-1 transcriptional reactivation. The protein exhibits dynamic subcellular localization, transitioning between cytoplasmic and nuclear compartments, with stress-induced formation of nuclear stress bodies. This recombinant fragment (amino acids 1-199) represents a stable, soluble unit ideal for exploring HSF1's structural features and initial activation mechanisms.