Recombinant CIART protein (His tag)

Catalog Number	549282
Synonyms	ChIP-derived repressor of network oscillator; Chrono; Computationally highlighted repressor of the network oscillator
Species	Human
Expression System	E. coli
Accession	Q8N365
Molecular Weight	Predictes a molecular mass of 11.24 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 11 kDa band.

Product Information

Sequence Region	113-197
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 113-197 aa (Q8N365) 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	Introducing the recombinant human Circadian-associated transcriptional repressor (Chrono) fragment (amino acids 113-197), a stable and soluble protein unit ideal for structural and biochemical studies. This fragment, derived from the CIART gene, represents a key region of the protein involved in the negative regulation of the circadian clock, offering researchers a valuable tool for investigating circadian rhythm mechanisms. The full-length Circadian-associated transcriptional repressor (Chrono) functions as a transcriptional repressor and is a critical negative regulatory component of the circadian clock, operating independently of other repressors like CRY1, CRY2, and BHLHE41. It represses the transcriptional activator activity of the CLOCK-BMAL1 heterodimer in a histone deacetylase-dependent manner, abrogates BMAL1 interaction with the coactivator CREBBP, and reduces histone acetylation of target genes. Chrono rhythmically binds E-box elements on circadian gene promoters with antiphasic oscillation relative to BMAL1 and also interacts with the glucocorticoid receptor (NR3C1) to contribute to glucocorticoid response repression. Subcellularly, it localizes to the nucleus and PML bodies, where it co-localizes with the CLOCK-BMAL1 heterodimer, underscoring its role in circadian regulation and cellular signaling pathways.