Recombinant NPAS2 protein (His tag)

Catalog Number	545772
Synonyms	Neuronal PAS2; Basic-helix-loop-helix-PAS protein MOP4; Class E basic helix-loop-helix protein 9; bHLHe9; Member of PAS protein 4; PAS domain-containing protein 4
Species	Human
Expression System	E. coli
Accession	Q99743
Molecular Weight	Predictes a molecular mass of 44.11 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 46 kDa band.

Product Information

Sequence Region	1-365
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 1-365 aa (Q99743) 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 Neuronal PAS domain-containing protein 2 (NPAS2) fragment (residues 1-365) from Homo sapiens. This high-purity protein includes the complete bHLH, PAS 1, PAS 2, and PAC functional domains, making it an essential tool for circadian rhythm research, transcriptional regulation studies, and metabolic pathway analysis. Neuronal PAS2 (NPAS2) is a core transcriptional activator in the mammalian circadian clock system, forming heterodimers with BMAL1/2 to regulate 24-hour rhythms in gene expression through E-box promoter elements. It governs critical physiological processes including sleep homeostasis, metabolic regulation, DNA damage response, and neurotransmitter receptor expression. The protein localizes to the nucleus where it coordinates circadian synchronization of peripheral tissues with environmental cues. NPAS2's dysfunction is linked to cardiovascular diseases, metabolic disorders, and cancer pathogenesis, underscoring its importance in maintaining temporal physiological homeostasis.