Recombinant ARNT protein (His tag)

Catalog Number	546881
Synonyms	ARNT protein; Class E basic helix-loop-helix protein 2; bHLHe2; Dioxin receptor, nuclear translocator; Hypoxia-inducible factor 1-beta; HIF-1-beta; HIF1-beta
Species	Human
Expression System	E. coli
Accession	P27540
Molecular Weight	Predictes a molecular mass of 20.36 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 20 kDa band.

Product Information

Sequence Region	302-465
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 302-465 aa (P27540) 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	This recombinant protein product features a specific fragment (amino acids 302-465) of the human Aryl hydrocarbon receptor nuclear translocator (ARNT), encompassing the complete PAS 2 functional domain. This fragment serves as an essential research tool for investigating the specific molecular functions of ARNT's PAS domains in heterodimerization and transcriptional regulation processes. The full-length ARNT protein, also known as Hypoxia-inducible factor 1-beta (HIF-1-beta), functions as a critical transcriptional regulator in human cells. It serves as an essential heterodimerization partner for the aryl hydrocarbon receptor (AHR), where upon ligand binding, AHR translocates to the nucleus and complexes with ARNT to initiate transcription of genes containing xenobiotic response elements (XRE). This complex regulates diverse biological processes including angiogenesis, hematopoiesis, drug metabolism, and immune modulation. Additionally, ARNT heterodimerizes with other partners to bind hypoxia response elements (HRE) and functions as a key regulator of the cellular adaptive response to hypoxia. The protein is localized exclusively in the nucleus, where it executes its transcriptional regulatory functions.