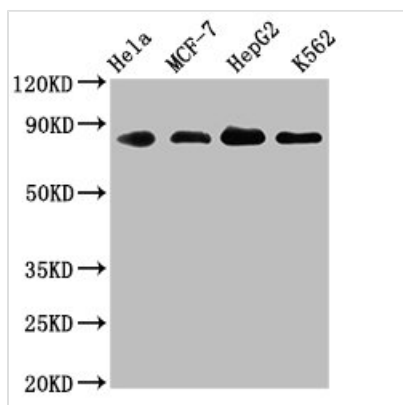




ARNT Recombinant Monoclonal Antibody

Product Code	CSB-RA002121A0HU
Abbreviation	Aryl hydrocarbon receptor nuclear translocator
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P27540
Immunogen	A synthesized peptide derived from human ARNT
Species Reactivity	Human
Tested Applications	ELISA, WB, IHC, IP; Recommended dilution: WB:1:500-1:5000, IHC:1:50-1:200, IP:1:200-1:1000
Relevance	Required for activity of the Ah (dioxin) receptor. This protein is required for the ligand-binding subunit to translocate from the cytosol to the nucleus after ligand binding. The complex then initiates transcription of genes involved in the activation of PAH procarcinogens. The heterodimer binds to core DNA sequence 5'-TACGTG-3' within the hypoxia response element (HRE) of target gene promoters and functions as a transcriptional regulator of the adaptive response to hypoxia (By similarity). The heterodimer ARNT:AHR binds to core DNA sequence 5'-TGCGTG-3' within the dioxin response element (DRE) of target gene promoters and activates their transcription (PubMed:28396409).
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Alias	Aryl hydrocarbon receptor nuclear translocator, 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, ARNT, BHLHE2
Immunogen Species	Homo sapiens (Human)
Research Area	Cardiovascular
Gene Names	ARNT
Clone No.	2F11
Image	



Western Blot

Positive WB detected in: HeLa whole cell lysate, MCF-7 whole cell lysate, HepG2 whole cell lysate, K562 whole cell lysate

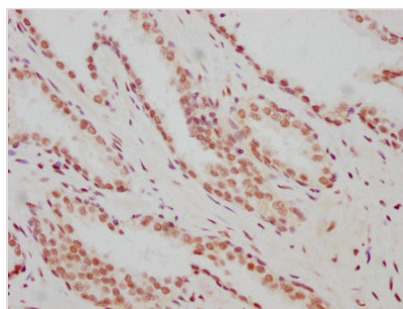
All lanes: ARNT antibody at 1.83μg/ml

Secondary

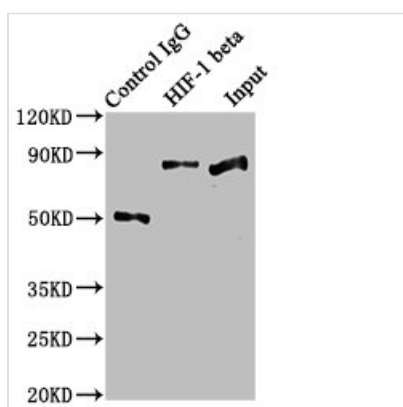
Goat polyclonal to rabbit IgG at 1/50000 dilution

Predicted band size: 87, 85, 86 KDa

Observed band size: 87 KDa



IHC image of CSB-RA002121A0HU diluted at 1:183 and staining in paraffin-embedded human prostate cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.



Immunoprecipitating HIF-1 beta in HeLa whole cell lysate

Lane 1: Rabbit control IgG instead of CSB-RA002121A0HU in HeLa whole cell lysate. For western blotting, a HRP-conjugated Protein G antibody was used as the secondary antibody (1/2000)

Lane 2: CSB-RA002121A0HU (3μg) + HeLa whole cell lysate (500μg)

Lane 3: HeLa whole cell lysate (20μg)

Description

The generation of the ARNT recombinant monoclonal antibody relies on the utilization of DNA recombinant technology and in vitro genetic manipulation. The process begins with immunizing animals using a synthesized peptide derived from human ARNT, followed by the isolation and selection of positive B cells. These positive B cells undergo further screening and identification of individual clones. The light and heavy chains of the ARNT antibody are then amplified through PCR and inserted into a plasmid vector. This recombinant vector is introduced into a host cell line to facilitate antibody expression. The ARNT recombinant monoclonal antibody is purified from the cell culture supernatant using affinity chromatography. It exhibits specific binding to human ARNT protein and is well-suited for four applications, including ELISA, WB, IHC, and IP.

The ARNT protein is involved in the regulation of gene expression. It forms a heterodimer with other transcription factors, such as the AhR, HIF-1, and Nrf2,



which allows them to bind to DNA and activate or repress the transcription of specific genes. ARNT plays an essential role in several cellular processes, including cell proliferation, differentiation, metabolism, and response to environmental stress. It also has a critical function in embryonic development, particularly in the formation of the cardiovascular and respiratory systems. ARNT has been implicated in various pathophysiological conditions, such as cancer, diabetes, and cardiovascular diseases.