

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human ARNT/HIF-1 β in Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human ARNT/HIF-1 β Asp517-Ala691 Accession # P27540
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μ m filtered solution in PBS.

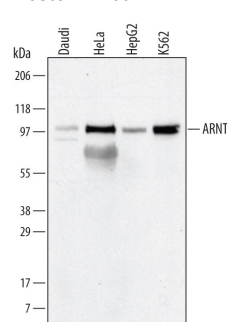
APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Western Blot	1 μ g/mL	See Below
Immunocytochemistry	5-15 μ g/mL	See Below
Knockout Validated	ARNT/HIF-1 β is specifically detected in A431 human epithelial carcinoma parental cell line but is not detectable in ARNT/HIF-1 β knockout A431 cell line.	

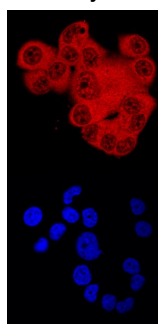
DATA

Western Blot



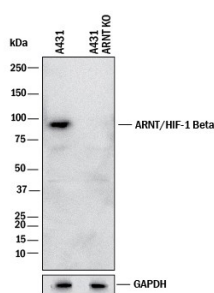
Detection of Human ARNT/HIF-1 β by Western Blot. Western blot shows lysates of Daudi human Burkitt's lymphoma cell line, HeLa human cervical epithelial carcinoma cell line, HepG2 human hepatocellular carcinoma cell line, and K562 human chronic myelogenous leukemia cell line. PVDF membrane was probed with 1 μ g/mL of Goat Anti-Human ARNT/HIF-1 β Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5630) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). A specific band was detected for ARNT/HIF-1 β at approximately 100 kDa (as indicated). This experiment was conducted under reducing conditions and using [Immunoblot Buffer Group 1](#).

Immunocytochemistry



ARNT/HIF-1 β in T47D Human Cell Line. ARNT/HIF-1 β was detected in immersion fixed T47D human breast cancer cell line using Goat Anti-Human ARNT/HIF-1 β Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5630) at 10 μ g/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red, upper panel; Catalog # NL001) and counterstained with DAPI (blue, lower panel). Specific staining was localized to nuclei and cytoplasm. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

Knockout Validated



Western Blot Shows Human ARNT/HIF-1 β Specificity by Using Knockout Cell Line. Western blot shows lysates of A431 human epithelial carcinoma parental cell line and ARNT/HIF-1 β knockout A431 cell line (KO). PVDF membrane was probed with 1 μ g/mL of Goat Anti-Human ARNT/HIF-1 β Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5630) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for ARNT/HIF-1 β at approximately 100 kDa (as indicated) in the parental A431 cell line, but is not detectable in knockout A431 cell line. GAPDH (Catalog # AF5718) is shown as a loading control. This experiment was conducted under reducing conditions and using [Immunoblot Buffer Group 1](#).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

ARNT (Aryl hydrocarbon nuclear translocator; also HIF-1 β , Hypoxia-inducible factor 1-beta) is an 87-97 kDa member of the bHLH-PAS subclass of the bHLH family of transcription factors. It is widely expressed, and serves as part of both the NF κ B and aryl hydrocarbon receptor (AHR) signaling nodes. For the AHR, the AHR is normally inactive and bound to hsp90 in the cytosol. Following ligand binding, the AHR complex enters the nucleus, dissociates from hsp90, dimerizes with ARNT, and then binds response elements of select genes. Human ARNT is 789 amino acids (aa) in length. It contains a DNA-binding region (aa 87-143), two PAS domains (aa 161-235 and 362-458) and one PAC region (aa 424-467). There are multiple potential splice forms. Two alternate start sites are found at Met10 and Met354, there is a deletion of aa 329-755 and 77-91, and an Ala substitution for aa 328-789.