

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human ARNT/HIF-1 $\beta$ in direct ELISAs.
<b>Source</b>	Monoclonal Mouse IgG <sub>2A</sub> Clone # 775146
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human ARNT/HIF-1 $\beta$ Asp517-Ala691 Accession # P27540
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ 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 $\mu$ m filtered solution in PBS.

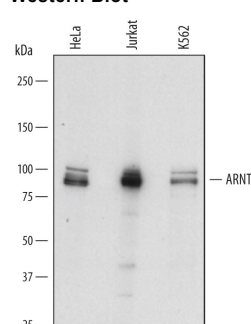
## APPLICATIONS

**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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	2 $\mu$ g/mL	See Below
<b>Immunocytochemistry</b>	8-25 $\mu$ g/mL	See Below

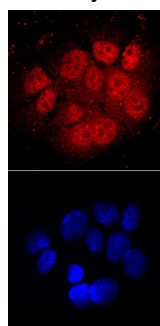
## DATA

### Western Blot



**Detection of Human ARNT/HIF-1 $\beta$  by Western Blot.** Western blot shows lysates of HeLa human cervical epithelial carcinoma cell line, Jurkat human acute T cell leukemia cell line, and K562 human chronic myelogenous leukemia cell line. PVDF membrane was probed with 2  $\mu$ g/mL of Mouse Anti-Human ARNT/HIF-1 $\beta$  Monoclonal Antibody (Catalog # MAB5630) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for ARNT/HIF-1 $\beta$  at approximately 90-100 kDa (as indicated). This experiment was conducted under reducing conditions and using [Immunoblot Buffer Group 1](#).

### Immunocytochemistry



**ARNT/HIF-1 $\beta$  in MCF-7 Human Cell Line.** ARNT/HIF-1 $\beta$  was detected in immersion fixed MCF-7 human breast cancer cell line using Mouse Anti-Human ARNT/HIF-1 $\beta$  Monoclonal Antibody (Catalog # MAB5630) at 10  $\mu$ g/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red, upper panel; Catalog # NL007) 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](#).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.5 mg/mL.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

ARNT (Aryl hydrocarbon nuclear translocator; also HIF-1 $\beta$ , 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 $\kappa$ 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.