AhR Antibody

Background: The aryl hydrocarbon receptor (AhR) is a ligand activated transcription factor involved in xenobiotic metabolism, cell cycle regulation, and development in response to both endogenous and environmental signals (1,2). AhR was initially identified as a receptor for dioxins, which are environmental pollutants generated by waste incineration and other industrial processes (3,4). AhR ligands include polycyclic aromatic hydrocarbons, including the carcinogen benzo(a)pyrene and other components of cigarette smoke (3,4). Naturally occurring AhR ligands include flavonoids, which are aromatic plant secondary compounds commonly found in vegetables and fruits (3). Cytoplasmic aryl hydrocarbon receptors are found in protein complexes with heat shock proteins. Upon ligand binding, AhR dissociates from heat shock proteins and translocates to the nucleus where it dimerizes with AhR nuclear translocator (ARNT, HIF-1p). The AhR/ARNT heterodimer binds to nuclear xenobiotic response elements to control the expression of genes associated with xenobiotic metabolism, including several cytochrome P450 genes (5,6). AhR is ubiquitously expressed and is thought to play a role in regulation of cell proliferation and differentiation, cytokine expression, and xenobiotic metabolism (2). Research studies link AhR activation with the control of regulatory T-cell and T-helper 17 cell proliferation and differentiation, cytokine expression, and the onset of lung cancer (1,2,7,8).

Specificity/Sensitivity: AhR Antibody recognizes endogenous levels of total AhR protein.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human AhR protein. Antibodies are purified by protein A and peptide affinity chromatography.

Recommended Antibody Dilutions:
Western blotting 1:1000
Immunoprecipitation 1:100

For product specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended complementary products.

Background References:

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.