Crown insight

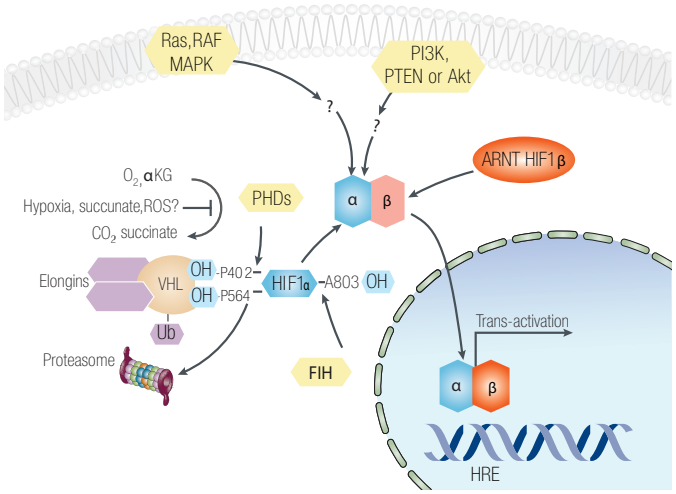
OCTOBER 2013 :

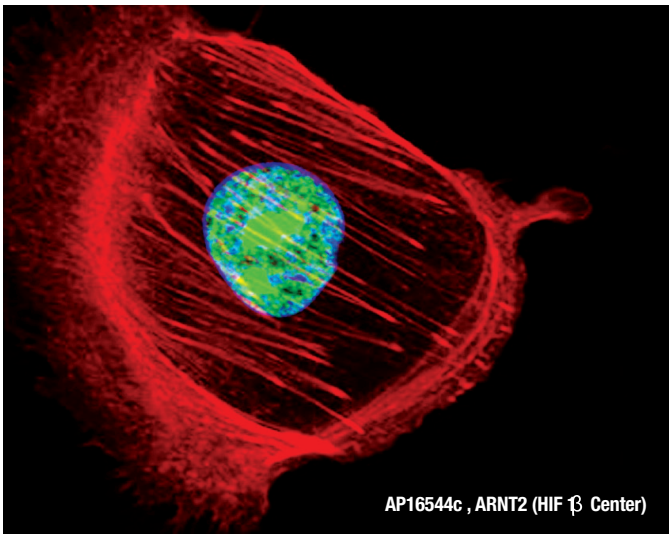
HIF1β

Introduction

The enzymatic hydroxylation of HIF1 defines the classical O2-sensing HIF1-pathway. Proline modifications are due to one of the three prolyl-hydroxylase (PHD) enzymes, which mediates recognition of the VHL–Elongins complex and ubiquitination (Ub) of HIF1-alpha and hence targeting for proteasomal degradation. Oncogenic activation, associated with activation of the Ras–RAF–MAPK (mitogen-activated protein kinase), phosphoinositide 3-kinase (PI3K), PTEN or Akt pathways cause HIF1-alpha accumulation through unknown mediators. Tri-carboxylic acid cycle intermediates such as succinate and fumarate, or perhaps mitochondrial reactive oxygen species (ROS), can inhibit the activity of PHDs, also stabilizing HIF1-alpha. Stabilized HIF1-alpha associates with HIF1-beta, which binds to cognate hypoxia-responsive elements (HREs) in target genes.

HIF Pathway





Confocal immunofluorescent analysis of ARNT2 (Center) Antibody #AP16544c on Hela cell. 0.02 mg/ml primary antibody was followed by FITC-conjugated goat anti-rabbit IgG. FITC emits green fluorescence. DAPI was used to stain the cell nucleus (blue). F-actin filaments have been labeled with phalloidin (red). Immunoreactivity for ARNT2 (HIF1β) in the nucleus (constitutive).

Selected Abgent Products

CAT. #	TARGET NAME
AP16544c	ARNT2 (HIF1β Center)
AP16900a	CUL2 (N-term)
AP18620b	EGLN1 (C-term)
AP16800a	EGLN2 (N-term)
AP14221b	EGLN3 (C-term)
AP7250b	MAPK1 (C-term)
AP7250c	MAPK1 (Center)
AP17086b	P4HA1 (C-term)
AP2911b	P4HB (C-term)
AP8436b	PTEN (C-term)
AP8436a	PTEN (N-term)
AP6549b	VHL (C-term)
AP6549a	VHL (N-term)

Visual categorization

Target associated (orange)

Autophagy Stem Cell Neurodegeneration

WuXi AppTec | ABGENT a WuXi AppTec company