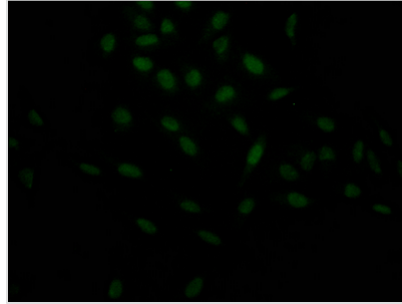




# HIF1A Recombinant Monoclonal Antibody

<b>Product Code</b>	CSB-RA263943A0HU
<b>Storage</b>	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
<b>Uniprot No.</b>	Q16665
<b>Immunogen</b>	A synthesized peptide derived from human HIF-1 alpha
<b>Species Reactivity</b>	Human
<b>Tested Applications</b>	ELISA, IF; Recommended dilution: IF:1:20-1:200
<b>Relevance</b>	Functions as a master transcriptional regulator of the adaptive response to hypoxia. Under hypoxic conditions, activates the transcription of over 40 genes, including erythropoietin, glucose transporters, glycolytic enzymes, vascular endothelial growth factor, HILPDA, and other genes whose protein products increase oxygen delivery or facilitate metabolic adaptation to hypoxia. Plays an essential role in embryonic vascularization, tumor angiogenesis and pathophysiology of ischemic disease. Binds to core DNA sequence 5'-[AG]CGTG-3' within the hypoxia response element (HRE) of target gene promoters. Activation requires recruitment of transcriptional coactivators such as CREBBP and EP300. Activity is enhanced by interaction with both, NCOA1 or NCOA2. Interaction with redox regulatory protein APEX seems to activate CTAD and potentiates activation by NCOA1 and CREBBP. Involved in the axonal distribution and transport of mitochondria in neurons during hypoxia.
<b>Form</b>	Liquid
<b>Conjugate</b>	Non-conjugated
<b>Storage Buffer</b>	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
<b>Purification Method</b>	Affinity-chromatography
<b>Isotype</b>	Rabbit IgG
<b>Clonality</b>	Monoclonal
<b>Product Type</b>	Recombinant Antibody
<b>Immunogen Species</b>	Homo sapiens (Human)
<b>Research Area</b>	Epigenetics and Nuclear Signaling; Cancer; Cardiovascular; Metabolism
<b>Gene Names</b>	HIF1A
<b>Clone No.</b>	5D12
<b>Image</b>	



Immunofluorescence staining of HeLa Cells with CSB-RA263943A0HU at 1:50, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeated by 0.2% TritonX-100, and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4?. Nuclear DNA was labeled in blue with DAPI. The secondary antibody was FITC-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L).

## Description

HIF1A is known to be associated with the upregulation of hypoxia-inducible genes such as phosphoglycerate kinase (PGK) and lactate dehydrogenase A (LDHA), both of which function to metabolically adapt the tissue to oxygen deprivation and anaerobic ATP synthesis. Previous studies of HIF1A deficient mice have indicated that HIF1A is essential for early vascular development during the embryonic stage. HIF1A increases inducible NO synthase levels, which dampens ischemic injury. A study shows that HIF1A is necessary for the myocardium to adapt to pressure overload and increase angiogenesis.

The production of this recombinant HIF1A antibody started with immunization. And then the workflow included B cell harvest and enrichment; import single B cell; assays to identify the specificity, affinity & functionality of the cell; export the single B cell; cDNA synthesis and sequencing; express the HIF1A antibody in mammalian cells. The target HIF1A antibody was validated in ELISA, IF.