Data Sheet (Cat.No.TMAY-02183)

Anti-HIF-1 alpha Antibody (2F748)

Product Details

Ig Type:	Rabbit IgG
Reactivity:	Human
Conjugation:	Unconjugated
Clone:	2F748
Purification:	Protein A

Applications

Verified Activity:	Immunofluorescence staining of Human HIF1A in Hela cells. Cells were fixed with 4% PFA, permeabilzed with 0.3% Triton X-100 in PBS, blocked with 10% serum, and incubated with rabbit anti-Human HIF1A monoclonal antibody (1:60) at 37°C 1 hour. Then cells were stained with the Alexa Fluor® 488-conjugated Goat Anti-rabbit IgG secondary antibody (green). Positive staining was localized to nucleus and cytoplasm.
Application:	ICC/IF
Recommended	ICC-IF: 1:20-1:100

Properties

Stability & Storage:	Store at 2°C-8°C for 1 month. Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles. Preservative-Free.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen:	Recombinant Protein: Human HIF-1 alpha / HIF1A Protein (TMPY-01709)
Antigen Species:	Human
Synonyms:	HIF-1alpha;HIF-1α;PASD8;hypoxia inducible factor 1, alpha subunit (basic helix-loop-helix transcription factor);HIF-1 α;HIF1-α;bHLHe78;hypoxia inducible factor 1, α subunit (basic helix-loop-helix transcription factor);HIF1-ALPHA;HIF1;HIF-1A;MOP1
Biology Area:	Cancer Drug Targets

Research Background

HIF-1 alpha, also known as HIF1A, contains 1 basic helix-loop-helix (bHLH) domain, 1 PAC (PAS-associated C-terminal) domain, and 2 PAS (PER-ARNT-SIM) domains. It is one of the two subunits of Hypoxia-inducible factor-1 (HIF1). HIF1 is a transcription factor found in mammalian cells cultured under reduced oxygen tension that plays an essential role in cellular and systemic homeostatic responses to hypoxia. HIF1 is a heterodimer composed of an alpha subunit and a beta subunit. The beta subunit has been identified as the aryl hydrocarbon receptor nuclear translocator (ARNT). HIF-1 alpha is expressed in most tissues with the highest levels in the kidney and heart. It is overexpressed in the majority of common human cancers and their metastases, due to the presence of intratumoral hypoxia and as a result of mutations in genes encoding oncoproteins and tumor suppressors. HIF-1 alpha functions as a master transcriptional regulator of the adaptive response to hypoxia. Under hypoxic conditions, it 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. HIF1A plays an essential role in embryonic vascularization, tumor angiogenesis, and the pathophysiology of ischemic disease. HIF-1 alpha binds to core DNA sequence 5'-[AG]CGTG-3' within the hypoxia response element (HRE) of target gene promoters. Activation requires the recruitment of transcriptional coactivators such as CREBPB and EP300.

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