

Product Specification Sheet

**Hypoxia-inducible factor 2-alpha (HIF-2 $\alpha$ / EPAS1) Antibodies**

<b>Cat # HIF2A11-P</b>	Mouse HIF-2 $\alpha$ control peptide #1	<b>SIZE:</b> 100 ug
<b>Cat # HIF2A11-A</b>	Rabbit Anti- Mouse HIF-2 $\alpha$ IgG # 1 ( <b>aff pure</b> )	<b>SIZE:</b> 100 ug

**HIF** is a transcriptional complex that plays a central role in mammalian oxygen homeostasis, the posttranslational modification by prolyl hydroxylation as a key regulatory event that targets HIF-alpha subunits for proteasomal destruction via the von Hippel-Lindau ubiquitylation complex. The transcriptional complex is composed of an alpha-beta heterodimer; HIF-beta being a constitutive nuclear protein that dimerises with oxygen regulated HIF-alpha subunits. In normoxia, 4-hydroxylation of human HIF-alpha at Pro402 or Pro564 by a set of HIF prolyl hydroxylase isoenzymes (PHD 1-3) mediates HIF1-alpha recognition by von Hippel-Lindau ubiquitin ligase complex leading to its proteasomal destruction. In hypoxia (deprivation of oxygen), lack of hydroxylase activity enables HIF-alpha subunits to escape destruction and become transcriptionally active. Thus HIF hydroxylases provide a focus for understanding cellular responses to hypoxia and target for therapeutic manipulation. There are several HIF factors, which include HIF 1-alpha, HIF 1-beta, HIF 2-alpha

**HIF 2-alpha/ EPAS 1**, a 874aa each protein in mouse, rat and 870aa in human, The transcription factor involved in the induction of oxygen regulated genes. Binds to core DNA sequence 5'-[AG]CGTG-3' within the hypoxia response element (HRE) of target gene promoters. Regulates the vascular endothelial growth factor (VEGF) expression and seems to be implicated in the development of blood vessels and the tubular system of lung. May also play a role in the formation of the endothelium that gives rise to the blood brain barrier. Potent activator of the Tie-2 tyrosine kinase expression. Expressed in most tissues, with highest levels in lung, followed by heart, kidney, brain and liver.

**Source of Antigen and Antibodies**

<b>Antigen</b>	15aa peptide of Mouse HIF-2 $\alpha$ ; <b>Designated (HIF2A11-P or control peptide) conjugated to KLH</b> ; epitope location ~ Mid-region
<b>Ab Host/type</b>	Rabbit, polyclonal Aff pure IgG ( <b>cat #HIF2A11-A</b> ) purified over antigen-agarose column
<b>2-Ab</b>	Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)
<b>-ve control IgG</b>	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

**Form & Storage of Antibodies/Peptide Control**

**Affinity pure IgG**  
100 ug/100ul solution lyophilized powder  
Supplied in **Buffer:** PBS+0.1% BSA  
**Reconstitute powder** in PBS at 1mg/ml

Control/blocking peptide  
100 ug/100 ul solution lyophilized powder  
Supplied in **Buffer:** PBS pH 7.5,  
**Reconstitute powder in PBS at 1 mg/ml.**

**Storage**

**Short-term:** unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

**Long-term:** at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

**Stability:** 6-12 months at -20oC or below.

**Shipping:** 4oC for solutions and room temp for powder

**Recommended Usage**

**Western Blotting** (1-10 ug/ml for affinity pure antibody using Chemiluminescence technique

**ELISA:** Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (0.5-1 ug/ml for affinity pure).

**Histochemistry & Immunofluorescence:** not tested. we recommend the use of affinity purified antibody at 2-10 ug/ml in paraformaldehyde fixed sections of tissues.

**Specificity & Cross-reactivity**

The mouse HIF2A11-P shows 100% sequence homology with human, 92% with rat and 80% with chicken HIF2 $\alpha$  Antibody crossreactivity in various specie in not known, Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at the web site).

**General References:** Koen Brusselmans et al (2001) JBC Vol. 276, No: 42, 39192-39196; Kaelin, W. G et al (1999) Nature 399, 203; Iyer, N. V et al (1998) Genes and Dev. 12, 149; Semenza, G. L et al (1998) J Lab Clin. Med. 131, 207; Nguyen, S. V et al (1999) Biochem. Biophys. Res. Comm. 265, 382; Feldser, D et al. (1999) Cancer Res. 59, 3915.

\*This product is for In vitro research use only.

**Related material available from ADI**

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HIF 1 $\alpha$ , HIF-2 $\alpha$  and HIF-1 $\beta$  antibodies.

HIF2A11-A-P 71214A

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