

HIF-1 α Antibody

✓ 100 μ l
(10 Western mini-blot)

Orders ■ 877-616-CELL (2355)
orders@cellsignal.com
Support ■ 877-678-TECH (8324)
info@cellsignal.com
Web ■ www.cellsignal.com

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This product is for *in vitro* research use only and is not intended for use in humans or animals.
This product is not intended for use as a therapeutic or in diagnostic procedures.

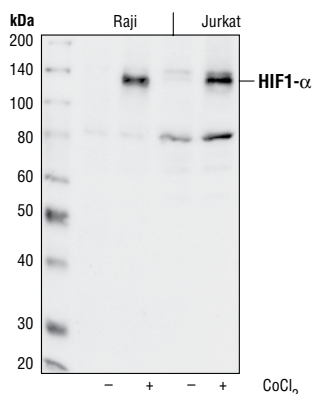
Entrez-Gene ID # 3091
Swiss-Prot Acc. # Q16665

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W	H	120 kDa	Rabbit**
Endogenous			

Background: Hypoxia-inducible factor 1(HIF1) is a heterodimeric transcription factor that plays a critical role in cellular responses to hypoxia (1). The HIF1 complex consists of two subunits, HIF-1 α and HIF-1 β belonging to the basic helix-loop-helix proteins of the PAS (Per, ARNT, Sim) family (2). HIF1 regulates the transcription of a broad range of genes that facilitate responses to the hypoxic environment, including regulation of angiogenesis, erythropoiesis, cell cycle, metabolism, and apoptosis. HIF-1 α is widely expressed but is normally degraded rapidly in normoxic cells by the ubiquitin/proteasomal pathway. Under normal conditions, HIF-1 α is proline hydroxylated leading to a conformational change that promotes binding to the von Hippel Lindau protein (VHL) E3 ligase complex, ubiquitination, and proteasomal degradation (3,4). Hypoxic conditions or chemical inhibitors of the hydroxylases such as desferrioxamine and cobalt, inhibit HIF-1 α degradation stabilizing its expression. In addition, HIF-1 α can be induced in an oxygen-independent manner by various cytokines through the PI3K-AKT-mTOR pathway (5-7).

Specificity/Sensitivity: HIF-1 α Antibody detects endogenous levels of total HIF-1 α protein. The antibody does not cross-react with other family members at physiological conditions, and does not detect significant levels of hydroxylated HIF-1 α .

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide (KLH-coupled) corresponding to residues surrounding Ser653 of human HIF-1 α . Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from Raji and Jurkat cells, untreated or treated with cobalt chloride (0.1 mM for 4 hours), using HIF-1 α Antibody.

Background References:

- (1) Sharp, F.R. and Bernaudin, M. (2004) *Nature Rev. Neurosci.* 5, 437-448.
- (2) Wang, G.L. et al. (1995) *Proc. Nat. Acad. Sci. USA* 92, 5510-5514.
- (3) Jaakkola, P. et al. (2001) *Science* 292, 468-472.
- (4) Maxwell, P. H. et al. (1999) *Nature* 399, 271-275.
- (5) Fukuda, R. et al. (2002) *J. Biol. Chem.* 277, 38205-38211.
- (6) Jiang, B. H. et al. (2001) *Cell Growth Differ.* 12, 363-369.
- (7) Laughner, E. et al. (2001) *Mol. Cell Biol.* 21, 3995-4004.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μ g/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by Western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting 1:1000

For application 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 companion products.

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.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebra fish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae All—all species expected Species enclosed in parentheses are predicted to react based on 100% sequence homology.