Qty: 100 µg/200 µL

Mouse anti-HIF-1α

Catalog No.: 458400

Mouse anti-HIF-1α

FORM

This affinity-purified mouse monoclonal antibody is supplied as a 200 µL aliquot at a concentration of 0.5 mg/mL in PBS, pH 7.4, containing 0.1% sodium azide. This antibody is highly purified from mouse ascites by protein A chromatography.

Clone: 429 **Isotype**: IgG1

IMMUNOGEN

Recombinant protein derived from the C-terminus of human HIF-1α protein (accession # Q16665, NP_001521), which is 99% similar to chimpanzee and Rhesus monkey, and 85% similar to bovine.

SPECIFICITY

This antibody is specific for human HIF-1 α (HIF1 alpha, ARNT-interacting protein, member of PAS protein 1, Basic-helix-loop-helix-PAS protein MOP1) protein. On Western blots of human Raji $CoCl_2$ (cobalt chloride) treated cells, it identifies the target band at ~120 kDa.

REACTIVITY

Reactivity has been confirmed with human Raji $CoCl_2$ treated cells using Western blotting. Based on amino acid sequence homology, reactivity with chimpanzee, Rhesus monkey and bovine is also expected.

Sample	Western Blotting
Human	+++
Monkey (Rhesus)	ND
Chimpanzee	ND
Bovine	ND

(Excellent +++, Good ++, Poor +, No reactivity 0, Not applicable N/A, Not determined ND)

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

Western Blotting: 2 µg/mL

(cont')

STORAGE

Store at 2-8°C for up to one month. Store at –20°C for long-term storage. Avoid repeated freezing and thawing.

BACKGROUND

HIF-1 (hypoxia inducible factor 1) is a heterodimer consisting of an alpha and a beta subunit, both belonging to the basic helix loop helix Per-aryl hydrocarbon receptor nuclear translocatorSim (PAS) family of transcription factors. HIF-1 is an oxygen-response activator of erythropoietin gene transcription and is known to play a central role in the maintenance of oxygen homeostasis in virtually all bodily tissues.[1,2] The C-terminal of HIF-1α binds to p300. p300/CBP-HIF complexes participate in the induction of hypoxia-responsive genes, including VEGF.

HIF-1α Hypoxia contributes significantly to the pathophysiology of major categories of human disease, including myocardial and cerebral ischemia, cancer, pulmonary hypertension, congenital heart disease and chronic obstructive pulmonary disease.[3] HIF-1 is a nuclear protein that activates gene transcription in response to reduced cellular O_2 concentration. HIF-1 activates the transcription of EPO, VEGF, iNOS, heme oxygenase-1 and several other critical intracellular responses to hypoxia. Recent research suggests that ability to regulate hypoxia-inducible factors may be related to tumor-related angiogenesis in certain cancers.[4]

REFERENCES

1. Semenza GL. *Cancer Met Rev* 19:59-65, 2000.
2. Semenza GL. *Annu Rev Cell Dev Biol* 15: 551-578, 1999.
3. Ateghang B et al. *J Cell Sci* 119(Pt 6):1043-52, 2006.
4. Glunde K et al. *Cancer Res* 68(1):172-80, 2008.

RELATED PRODUCTS

Product	*Conjugate*	*Cat. No.*
Protein A	Sepharose 4B	10-1041
rec-Protein G	Sepharose 4B	10-1241
ZyMAX™ Goat anti-rabbit IgG	Unconjugated	81-6100
ZyMAX™ Goat anti-mouse IgG	Unconjugated	81-6500

Secondary antibody conjugates.

Conjugate	*Goat anti-rabbit IgG (H+L)*	*Goat anti-mouse IgG (H+L)*	*Ex/Em**	*Fluorescence similar to--*
Alexa Fluor® 488	A11008	A11001	495/519	FITC
Alexa Fluor® 555	A21428	A21422	555/565	Cy3
Alexa Fluor® 594	A11012	A11005	590/617	Texas Red
Alexa Fluor® 647	A21244	A21235	650/668	Cy5
HRP	81-6120	81-6520	NA**	NA
AP	81-6122	81-6522	NA	NA
Biotin	B2770	B2763	NA	NA

*Excitation/emission (nm); **Not applicable

For additional secondary antibody conjugates, visit www.invitrogen.com/antibodies

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