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Store at -20C
#4426

FIH (D19B3) Rabbit mAb

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	42	Rabbit IgG	#Q9NWT6	55662

Product Usage Information

Application

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

FIH (D19B3) Rabbit mAb detects endogenous levels of total FIH protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Tyr35 of human FIH protein.

Background

FIH (Factor inhibiting HIF-1, HIF asparagine hydroxylase) is a dioxygen-dependent asparaginyl hydroxylase that modifies target protein function by hydroxylating target protein asparagine residues (1-3). Hypoxia-inducible factor (HIF), a transcriptional activator involved in control of cell cycle in response to hypoxic conditions, is an important target for FIH regulation. FIH functions as an oxygen sensor that regulates HIF function by hydroxylating at Asn803 in the carboxy-terminal transactivation domain (CAD) of HIF (4,5). During normoxia, FIH uses cellular oxygen to hydroxylate HIF-1 and prevent interaction of HIF-1 with transcriptional coactivators, including the CBP/p300-interacting transactivator. Under hypoxic conditions, FIH remains inactive and does not inhibit HIF, allowing the activator to regulate transcription of genes in response to low oxygen conditions (4-6). FIH activity is regulated in through interaction with proteins, including Siah-1, which targets FIH for proteasomal degradation (7). The Cut-like homeodomain protein CDP can bind the FIH promoter region to regulate FIH expression at the transcriptional level (8). Phosphorylation of HIF at Thr796 also can prevent FIH hydroxylation on Asn803 (9). Potential FIH substrates also include proteins with ankyrin repeat domains, such as Ik-B, Notch, and ASB4 (10-12).

Background References

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4. Mahon, P.C. et al. (2001) *Genes Dev* 15, 2675-86.
5. Lando, D. et al. (2002) *Genes Dev* 16, 1466-71.
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7. Fukuba, H. et al. (2007) *Biochem Biophys Res Commun* 353, 324-9.
8. Li, J. et al. (2007) *Mol Cell Biol* 27, 7345-53.
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11. Cockman, M.E. et al. (2006) *Proc Natl Acad Sci USA* 103, 14767-72.
12. Cockman, M.E. et al. (2009) *Mol Cell Proteomics* 8, 535-46.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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