Revision 7

Store at -20C

#12800

STF-1 (D1Z2A) XP® Rabbit mAb

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IF-IC, ChIP, ChIP-seq	H M	Endogenous	50	Rabbit IgG	#Q13285	2516

Product Usage Information

For optimal ChIP and ChIP-seq results, use 10 µl of antibody and 10 µg of chromatin (approximately 4 x 10^6 cells) per IP. This antibody has been validated using SimpleChIP® Enzymatic Chromatin IP Kits.

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100
Immunofluorescence (Immunocytochemistry)	1:100
Chromatin IP	1:50
Chromatin IP-seq	1:50

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

STF-1 (D1Z2A) XP® Rabbit mAb recognizes endogenous levels of total STF-1 protein. This antibody does not cross-react with LRH-1/NR5A2.

Species predicted to react based on 100% sequence homology

Bovine

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu184 of human STF-1 protein.

Background

The orphan nuclear receptor, steroidogenic factor 1 (STF-1, also called Ad4BP), is encoded by the *NR5A1* gene and plays an instrumental role in directing the transcriptional control of steroidogenesis (1). Initially identified as a tissue-specific transcriptional regulator of cytochrome P450 steroid hydroxylases, research studies of both global (2) and tissue-specific knockout mice (3-6) have demonstrated that STF-1 is required for the development of adrenal glands, gonads, ventromedial hypothalamus, and for the proper functioning of pituitary gonadotropes. Indeed, humans with mutations that render *STF-1* transcriptionally inactive can present with testicular failure, ovarian failure, and adrenal insufficiency (7,8). Furthermore, dysregulation of STF-1 has been linked to diseases such as endometriosis (9) and adrenocortical carcinoma (10).

Like other nuclear hormone receptors, STF-1 has a modular domain structure composed of an amino-terminal zinc finger DNA-binding domain, a ligand-binding domain, a carboxy-terminal AF-2 activation domain, and a hinge region with AF-1-like activation activity. STF-1 also contains a fushi tarazu factor 1 box, which functions as an accessory DNA binding domain (11). STF-1 is primarily phosphorylated at Ser203, which is thought to enhance its transcriptional activity by promoting complex formation with transcriptional cofactors (12). In addition to phosphorylation at Ser203, STF-1 is subject to SUMO conjugation and acetylation at ε-amino groups of target lysine residues. Whereas SUMOylation represses STF-1 function (13,14), acetylation enhances its transcriptional activity (15).

Background References

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8. Lourenço, D. et al. (2009) *N Engl J Med* 360, 1200-10.
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12. Hammer, G.D. et al. (1999) *Mol Cell* 3, 521-6.

13. Chen, W.Y. et al. (2004) *J Biol Chem* 279, 38730-5.
14. Lee, F.Y. et al. (2011) *Dev Cell* 21, 315-27.
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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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry) **ChIP:** Chromatin IP **ChIP-seq:** Chromatin IP-seq

Cross-Reactivity Key

H: Human **M:** Mouse

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Limited Uses