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FOXA1 Antibody

Catalog # ASC11624

Product Information

Application	WB, E
Primary Accession	P55317
Other Accession	NP_004487, 24497501
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	49148
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	FOXA1 antibody can be used for detection of FOXA1 by Western blot at 1 - 2 g/mL.

Additional Information

Gene ID	3169
Other Names	Hepatocyte nuclear factor 3-alpha, HNF-3-alpha, HNF-3A, Forkhead box protein A1, Transcription factor 3A, TCF-3A, FOXA1, HNF3A, TCF3A
Target/Specificity	FOXA1; Multiple isoforms of FOXA1 exists as a result of alternative splicing event.
Reconstitution & Storage	FOXA1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	FOXA1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	FOXA1
Synonyms	HNF3A, TCF3A
Function	Transcription factor that is involved in embryonic development, establishment of tissue-specific gene expression and regulation of gene expression in differentiated tissues. Is thought to act as a 'pioneer' factor opening the compacted chromatin for other proteins through interactions with nucleosomal core histones and thereby replacing linker histones at target enhancer and/or promoter sites. Binds DNA with the consensus sequence 5'- [AC]A[AT]T[AG]TT[GT][AG][CT]T[CT]-3' (By similarity). Proposed to play a role in translating the epigenetic signatures into cell type-specific enhancer-driven transcriptional programs. Its differential recruitment to

	chromatin is dependent on distribution of histone H3 methylated at 'Lys-5' (H3K4me2) in estrogen-regulated genes. Involved in the development of multiple endoderm-derived organ systems such as liver, pancreas, lung and prostate; FOXA1 and FOXA2 seem to have at least in part redundant roles (By similarity). Modulates the transcriptional activity of nuclear hormone receptors. Is involved in ESR1-mediated transcription; required for ESR1 binding to the NKX2-1 promoter in breast cancer cells; binds to the RPRM promoter and is required for the estrogen-induced repression of RPRM. Involved in regulation of apoptosis by inhibiting the expression of BCL2. Involved in cell cycle regulation by activating expression of CDKN1B, alone or in conjunction with BRCA1. Originally described as a transcription activator for a number of liver genes such as AFP, albumin, tyrosine aminotransferase, PEPCK, etc. Interacts with the cis-acting regulatory regions of these genes. Involved in glucose homeostasis.
Cellular Location	Nucleus {ECO:0000255|PROSITE-ProRule:PRU00089, ECO:0000269|PubMed:15987773, ECO:0000269|PubMed:16331276}
Tissue Location	Highly expressed in prostate and ESR1-positive breast tumors. Overexpressed in esophageal and lung adenocarcinomas

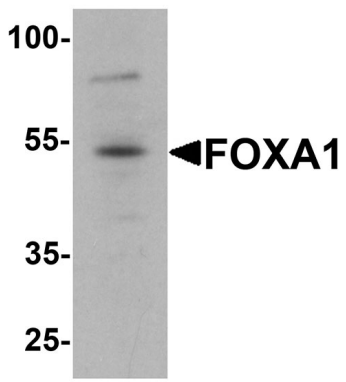
Background

FOXA1 Antibody: FOXA1 is one of three members of the FOXA family, a subset of the forkhead family of transcription factors which play vital roles in development. It has also been implicated in the development of a number of other organs including the androgen and estrogen regulated tissues of the breast and prostate. FOXA1 modulates the transcriptional activity of nuclear hormone receptors and regulates apoptosis by inhibiting the expression of BCL-2. It is an essential protein for the transcriptional activity of both androgen receptor (AR) and estrogen receptor-α (ER). FOXA1 plays a pivotal role from early stage cancer through to drug resistant and metastatic disease. FOXA1 is not only an attractive therapeutic target but could potentially function as a novel biomarker.

References

Hannenhalli S and Kaestner KH. The evolution of Fox genes and their role in development and disease. Nat. Rev. Genet. 2009; 10:233-40.
Costa RH, Grayson DR, and Darnell JE Jr. Multiple hepatocyte-enriched nuclear factors function in the regulation of transthyretin and alpha 1-antitrypsin genes. Mol. Cell. Biol. 1989; 9:1415-25.
Bernardo GM and Keri RA. FOXA1: a transcription factor with parallel functions in development and cancer. Biosci. Rep. 2012; 32:113-30.
Robinson JL and Carroll JS. FoxA1 is a key mediator of hormonal response in breast and prostate cancer. Front. Endocrinol 2012; 3:68.

Images



Western blot analysis of FOXA1 in 293 cell lysate with FOXA1 antibody at 1 µg/mL

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.