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Anti-YY1 Antibody Picoband™ (monoclonal, 6H3E1)

Catalog # ABO16238

Product Information

Application	WB, IHC, FC
Primary Accession	P25490
Host	Mouse
Isotype	Mouse IgG2b
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-YY1 Antibody Picoband™ (monoclonal, 6H3E1) . Tested in Flow Cytometry, IHC, WB applications. This antibody reacts with Human, Mouse, Rat.
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500 □g/ml.

Additional Information

Gene ID	7528
Other Names	Transcriptional repressor protein YY1, Delta transcription factor, INO80 complex subunit S, NF-E1, Yin and yang 1, YY-1, YY1, INO80S
Calculated MW	44713
Application Details	Western blot, 0.25-0.5 □g/ml, Human, Mouse, Rat Immunohistochemistry(Paraffin-embedded Section), 2-5 □g/ml, Human Flow Cytometry, 1-3 □g/1x10^6 cells, Human
Source	Eukaryota
Contents	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Clone Names	Clone: 6H3E1
Immunogen	A synthetic peptide corresponding to a sequence in the middle region of human YY1, identical to the related mouse sequence.
Purification	Immunogen affinity purified.
Storage	At -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freezing and thawing.

Protein Information

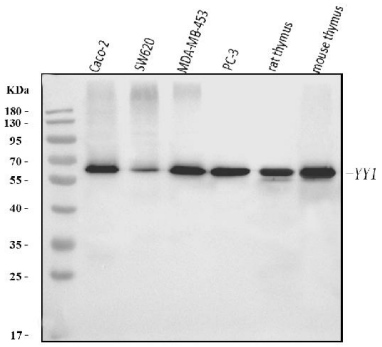
Name	YY1
Synonyms	INO80S
Function	Multifunctional transcription factor that exhibits positive and negative control on a large number of cellular and viral genes by binding to sites overlapping the transcription start site (PubMed:15329343, PubMed:17721549, PubMed:24326773, PubMed:25787250). Binds to the consensus sequence 5'-CCGCCATNTT-3'; some genes have been shown to contain a longer binding motif allowing enhanced binding; the initial CG dinucleotide can be methylated greatly reducing the binding affinity (PubMed:15329343, PubMed:17721549, PubMed:24326773, PubMed:25787250). The effect on transcription regulation is depending upon the context in which it binds and diverse mechanisms of action include direct activation or repression, indirect activation or repression via cofactor recruitment, or activation or repression by disruption of binding sites or conformational DNA changes (PubMed:15329343, PubMed:17721549, PubMed:24326773, PubMed:25787250). Its activity is regulated by transcription factors and cytoplasmic proteins that have been shown to abrogate or completely inhibit YY1- mediated activation or repression (PubMed:15329343, PubMed:17721549, PubMed:24326773, PubMed:25787250). For example, it acts as a repressor in absence of adenovirus E1A protein but as an activator in its presence (PubMed:1655281). Acts synergistically with the SMAD1 and SMAD4 in bone morphogenetic protein (BMP)-mediated cardiac-specific gene expression (PubMed:15329343). Binds to SMAD binding elements (SBEs) (5'-GTCT/AGAC-3') within BMP response element (BMPRE) of cardiac activating regions (PubMed:15329343). May play an important role in development and differentiation. Proposed to recruit the PRC2/EED-EZH2 complex to target genes that are transcriptional repressed (PubMed:11158321). Involved in DNA repair (PubMed:18026119, PubMed:28575647). In vitro, binds to DNA recombination intermediate structures (Holliday junctions). Plays a role in regulating enhancer activation (PubMed:28575647). Recruits the PR-DUB complex to specific gene-regulatory regions (PubMed:20805357).
Cellular Location	Nucleus matrix Note=Associated with the nuclear matrix.

Background

YY1 (Yin Yang 1) is a transcriptional repressor protein in humans that is encoded by the YY1 gene. YY1 is a ubiquitously distributed transcription factor belonging to the GLI-Kruppel class of zinc finger proteins. The protein is involved in repressing and activating a diverse number of promoters. YY1 may direct histone deacetylases and histone acetyltransferases to a promoter in order to activate or repress the promoter, thus implicating histone modification in the function of YY1.

Images

Figure 1. Western blot analysis of YY1 using anti-YY1 antibody (M00833-1).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours.
The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human Caco-2 whole cell lysates,
Lane 2: human SW620 whole cell lysates,
Lane 3: human MDA-MB-453 lysates,
Lane 4: human PC-3 whole cell lysates,



Lane 5: rat thymus tissue lysates,
Lane 6: mouse thymus tissue lysates.
After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-YY1 antigen affinity purified monoclonal antibody (Catalog # M00833-1) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for YY1 at approximately 65 kDa. The expected band size for YY1 is at 65 kDa.

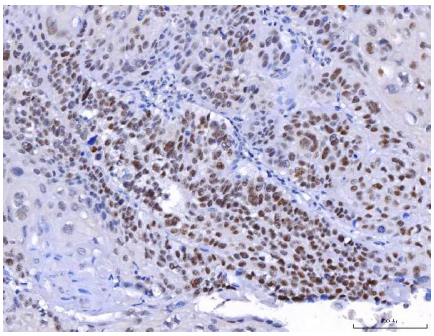


Figure 2. IHC analysis of YY1 using anti-YY1 antibody (M00833-1).
YY1 was detected in a paraffin-embedded section of human laryngeal squamous cell carcinomas tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-YY1 Antibody (M00833-1) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

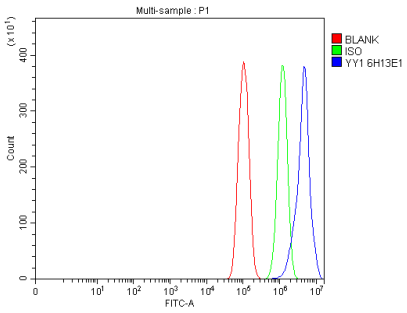


Figure 3. Flow Cytometry analysis of PC-3 cells using anti-YY1 antibody (M00833-1).
Overlay histogram showing PC-3 cells stained with M00833-1 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-YY1 Antibody (M00833-1, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

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