TECHNICAL DATASHEET

LOT: A2649-0040

HOLOGIC® Diagenode

YY1 antibody

Cat. No. C15410345

Lot:	A2649-0040
Size:	10 µg / 50 µg
Type:	Polyclonal, **ChIP-grade**, **ChIP-seq grade, CUT&Tag-grade**
Isotype:	NA
Source:	Rabbit
Concentration:	2.3 µg/µl

Specificity:	Human: positive Other species: not tested
Purity:	Affinity purified polyclonal antibody
Storage buffer:	PBS containing 0.05% azide

Storage: Store at −20°C. For long-term storage, store at −80°C. Avoid multiple freeze–thaw cycles.

Precautions: This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Description: Polyclonal antibody raised in rabbit against human Transcription factor YY1, using two synthetic peptides containing a sequence from the central part and the C-terminus of the protein, respectively.

Applications

Applications	Suggested dilution	References
ChIP/ChIP-seq*	1 µg per ChIP	Fig 1, 2
CUT&Tag	1 µg	Fig 3
ELISA	1:10,000 – 1:100,000	Fig 4
Western blotting	1:1,000	Fig 5

*Please note that the optimal antibody amount per IP should be determined by the end-user. We recommend testing 1–5 µg per ChIP.

Target description

YY1 (UniProtKB/Swiss-Prot entry P25490) is a ubiquitously distributed transcription factor that can both activate and repress a large number of cellular and viral genes by binding to sites overlapping the transcription start site. Whether it activates or represses transcription depends upon the context in which it binds. YY1 is thought to direct histone deacetylases and histone acetyltransferases to the promoters of its target genes in order to activate or repress transcription, thus implicating histone modification in the function of YY1.

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Results

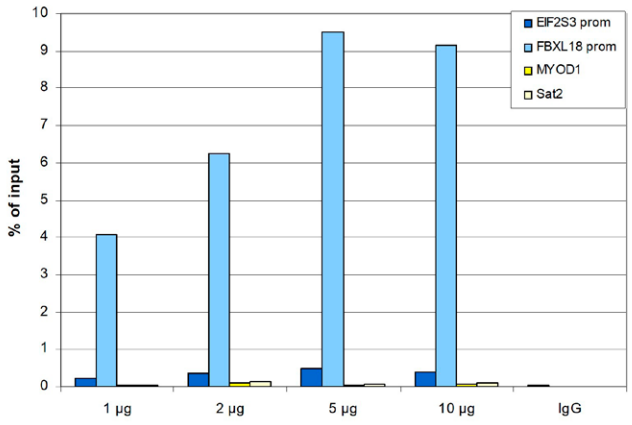

Figure 1: ChIP results obtained with the antibody directed against YY1

ChIP assays were performed using K562 cells, the antibody against YY1 (cat. no. C15410345) and optimized PCR primer sets for qPCR. ChIP was performed with the iDeal ChIP-seq kit for Transcription Factors (cat. no. C01010055), using sheared chromatin from 4 million cells. A titration consisting of 1, 2, 5, and 10 µg of antibody per ChIP experiment was analyzed. IgG (2 µg/IP) was used as a negative IP control. Quantitative PCR was performed with primers for the promoters of the FBXL18 and EIF2S3 genes, used as positive controls, and for the MYOD1 gene and the Sat2 satellite repeat, used as negative controls.

Figure 1 shows the recovery, expressed as % of input (the relative amount of immunoprecipitated DNA compared to input DNA after qPCR analysis).

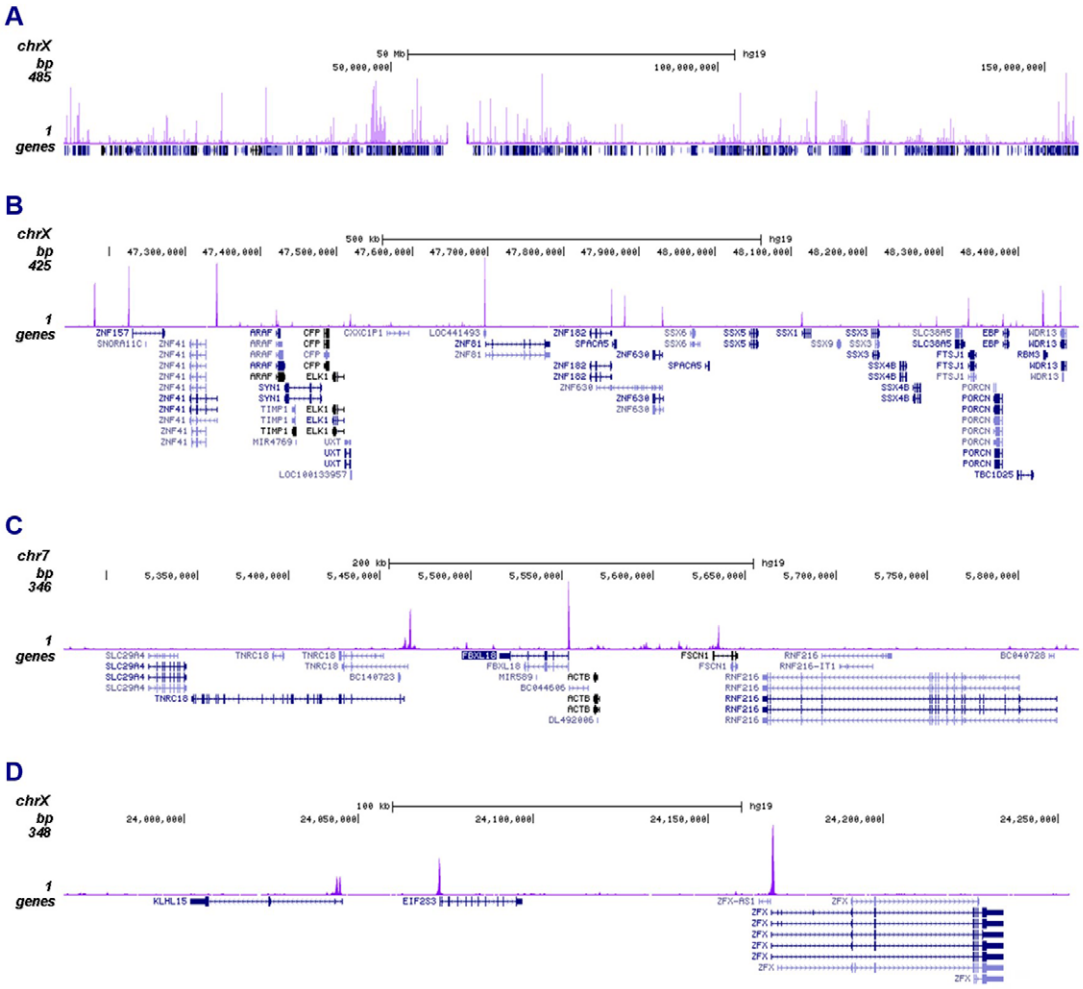

Figure 2: ChIP-seq results obtained with the antibody directed against YY1

ChIP was performed with 1 µg of the antibody against YY1 (cat. no. C15410345) on sheared chromatin from 4 million K562 cells using the iDeal ChIP-seq kit for Transcription Factors, as described above. The IP'd DNA was subsequently analyzed on an Illumina HiSeq 4000. Library preparation, cluster generation, and sequencing were performed according to the manufacturer's instructions. The 50 bp tags were aligned to the human genome using the BWA algorithm. Figure 2 shows the signal distribution along the complete sequence and a 1 Mb region of the human X chromosome (figures 2A and 2B), and in two genomic regions surrounding the FBXL18 and EIF2S3 positive control genes (figures 2C and 2D).

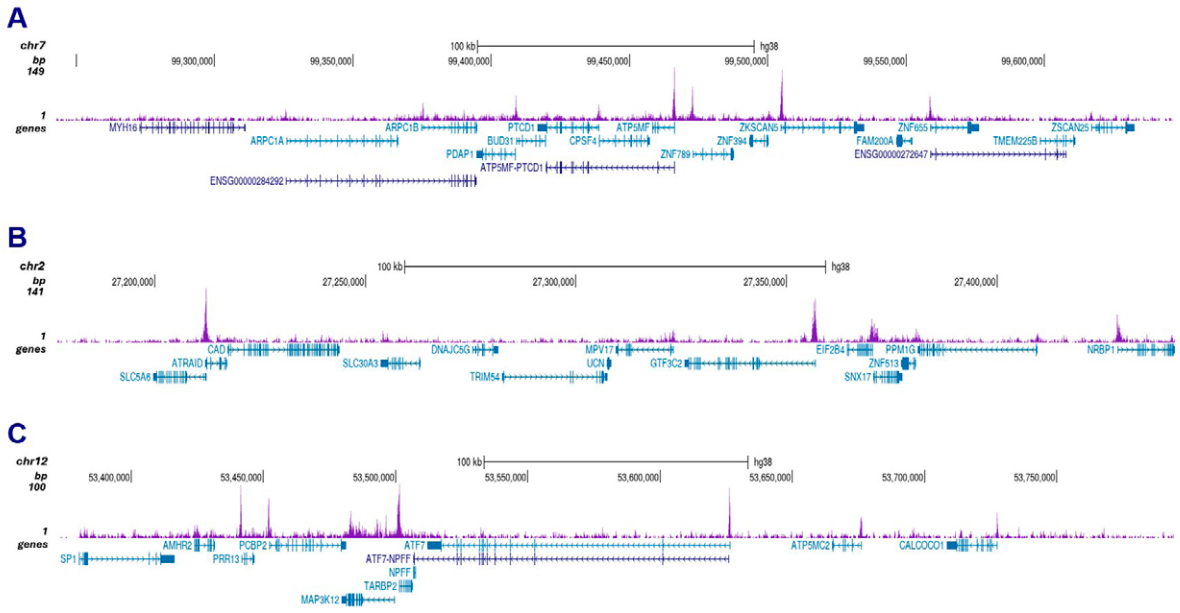

Figure 3: CUT&Tag results obtained with the antibody directed against YY1

CUT&Tag was performed on 300,000 K562 cells using 1 µg of the antibody against YY1 (cat. no. C15410345) and the Universal CUT&Tag kit (cat. no. C01070024). The libraries were subsequently analyzed on an Illumina NovaSeq sequencer (2×50 bp paired-end reads) according to the manufacturer's instructions. The tags were aligned to the human genome (hg38) using the BWA algorithm. Figure 3 shows the peak distribution in three genomic regions on chromosomes 7, 2, and 12 (figures 3A, 3B, and 3C, respectively).

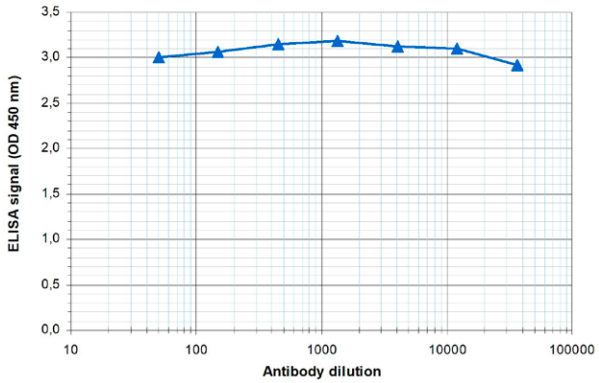

Figure 4: Determination of the antibody titer

To determine the titer of the antibody, an ELISA was performed using a serial dilution of the antibody directed against YY1 (cat. no. C15410345). The plates were coated with the peptides used for immunization of the rabbit. By plotting the absorbance against the antibody dilution (Figure 4), the titer of the antibody was estimated to be >1:1,000,000.

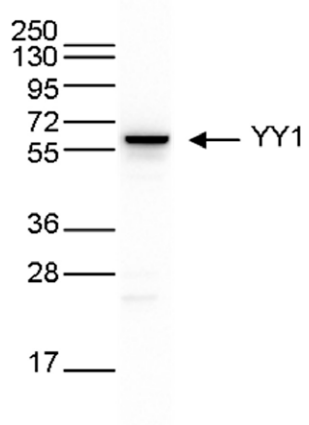

Figure 5: Western blot analysis using the antibody directed against YY1

Whole cell extracts from K562 cells were analyzed by Western blot using the antibody against YY1 (cat. no. C15410345) diluted 1:1,000 in TBS-Tween containing 5% skimmed milk. The position of the protein of interest is indicated on the right; the marker (in kDa) is shown on the left.