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DUX4 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP11636C

Product Information

Application	WB, FC, E
Primary Accession	Q9UBX2
Other Accession	Q6RFH8, P0CJ90, P0CJ89, P0CJ88, P0CJ87, P0CJ86, P0CJ85
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB29833
Calculated MW	44940
Antigen Region	246-275

Additional Information

Gene ID	100288687
Other Names	Double homeobox protein 4 {ECO:0000312|HGNC:HGNC:50800}, Double homeobox protein 10 {ECO:0000312|EMBL:AAK915091}, DUX4 (HGNC:50800), DUX10
Target/Specificity	This DUX4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 246-275 amino acids from the Central region of human DUX4.
Dilution	WB~~1:2000 FC~~1:25 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	DUX4 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DUX4 (HGNC:50800)
Synonyms	DUX10

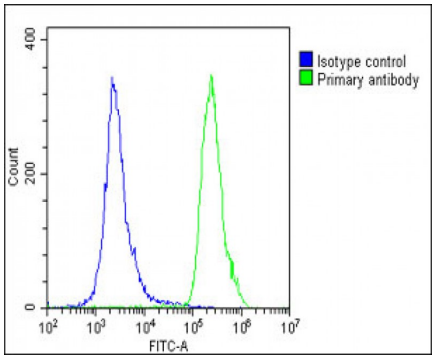
Function	[Isoform 1]: Transcription factor that is selectively and transiently expressed in cleavage-stage embryos (PubMed:28459457). Binds to double-stranded DNA elements with the consensus sequence 5'- TAATCTAATCA-3' (PubMed:28459454, PubMed:28459457, PubMed:29572508, PubMed:30315230, PubMed:30540931). Binds to chromatin containing histone H3 acetylated at 'Lys-27' (H3K27ac) and promotes deacetylation of H3K27ac. In parallel, binds to chromatin that lacks histone H3 acetylation at 'Lys-27' (H3K27ac) and recruits EP300 and CREBBP to promote acetylation of histone H3 at 'Lys-27' at new sites (PubMed:26951377). Involved in transcriptional regulation of numerous genes, primarily as transcriptional activator, but also mediates repression of a set of target genes (PubMed:17984056, PubMed:26951377, PubMed:27378237, PubMed:28459454, PubMed:28459457, PubMed:29572508, PubMed:29618456, PubMed:30540931). Promotes expression of ZSCAN4 and KDM4E, two proteins with essential roles during early embryogenesis (PubMed:26951377, PubMed:27378237, PubMed:28459457, PubMed:29618456). Promotes nuclear translocation of CTNNB1/beta-catenin and its subsequent activation of target genes (PubMed:36158201). Heterologous expression in cultured embryonic stem cells mediates transcription of HERVL retrotransposons and transcripts derived from ACRO1 and HSATII satellite repeats (PubMed:28459457). May activate expression of PITX1 (PubMed:17984056). May regulate microRNA (miRNA) expression (PubMed:24145033). Inappropriate expression can inhibit myogenesis and promote apoptosis (PubMed:26951377, PubMed:28935672, PubMed:29618456).
Cellular Location	[Isoform 1]: Nucleus {ECO:0000255|PROSITE- ProRule:PRU00108, ECO:0000269|PubMed:15709750, ECO:0000269|PubMed:17984056, ECO:0000269|PubMed:21060811, ECO:0000269|PubMed:26816005, ECO:0000269|PubMed:26951377, ECO:0000269|PubMed:27378237, ECO:0000269|PubMed:28459457, ECO:0000269|PubMed:29618456}. Cytoplasm Note=Actively transported through the nuclear pore complex (NPC)
Tissue Location	Isoform 1: Does not seem to be expressed in normal muscle, but is detected in muscle of individuals with FSHD, and also in testis (at protein level) (PubMed:17984056, PubMed:21060811). Isoform 1: Does not seem to be expressed in normal muscle, but in muscle of individuals with FSHD, where it may be toxic to cells (PubMed:17984056, PubMed:21060811). Isoform 2: Detected in skeletal muscle, fibroblasts and testis from healthy individuals (PubMed:21060811)

Background

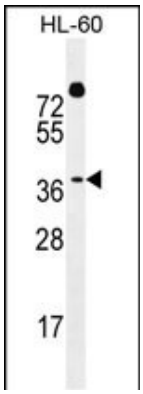
DUX4 may be involved in transcriptional regulation.

Images

Overlay histogram showing U-2 OS cells stained with AP11636c(green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AP11636c, 1:25 dilution) for 60 min at 37ºC. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly



Cross-Adsorbed(1583138) at 1/200 dilution for 40 min at 37ºC. Isotype control antibody (blue line) was rabbit IgG1 (1µg/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.



DUX4 Antibody (Center) (Cat. #AP11636c) western blot analysis in HL-60 cell line lysates (35ug/lane).This demonstrates the DUX4 antibody detected the DUX4 protein (arrow).