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EYA2 Rabbit pAb

Catalog # AP97286

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	O00167
Other Accession	O00167
Reactivity	Rat
Predicted	Pig, Human, Mouse, Dog, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	59232
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human EYA2
Epitope Specificity	201-300/538
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the HAD-like hydrolase superfamily. EYA family.
SUBUNIT	Interacts with GNAZ and GNAI2. Interacts with DACH2 and SIX1, and probably with SIX2, SIX4 and SIX5. Interacts with CAPN8 (By similarity).
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	A gene on chromosome 20q13.1 encodes Eya2 (eyes absent). EYA2 is one of four members of the eyes absent family. A 271 amino acid domain at the carboxy-terminal is highly conserved amongst the members of the eyes absent family, while the PST (proline-serive-threonin)-rich amino-terminal is highly divergent. EYA2 is expressed relatively late in development in the cytoplasm of extensor tendons and ligaments of the phalangeal elements of the limb, cranial placodes, branchial arches, central nervous system, and the developing eye. Pax3 induces the expression of Eya2 in a cascade that is necessary and sufficient for myogenesis. EYA2, like EYA1, acts as a transcriptional activator in connective tissue patterning through its PST domain, which functions as a transactivation domain. EYA2 is translocated to the nucleus by Six proteins, which interact through their domain and homeodomain with EYA2. EYA2 carboxy-terminal interacts with the G Alpha z and G Alphai 2 proteins. This interaction prevents Six proteins from translocating EYA2 to the nucleus.

Additional Information

Gene ID	2139
Other Names	EAB1; EYA2_BOVIN; EYA2; Eyes absent homolog 2; 3.1.3.48; EYA2_HUMAN; EYA transcriptional coactivator and phosphatase 2; eyes absent (Drosophila) homolog 2; eyes absent homolog 2 (Drosophila)

Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	EYA2
Synonyms	EAB1
Function	Functions both as protein phosphatase and as transcriptional coactivator for SIX1, and probably also for SIX2, SIX4 and SIX5 (PubMed:12500905, PubMed:23435380). Tyrosine phosphatase that dephosphorylates 'Tyr-142' of histone H2AX (H2AXY142ph) and promotes efficient DNA repair via the recruitment of DNA repair complexes containing MDC1. 'Tyr-142' phosphorylation of histone H2AX plays a central role in DNA repair and acts as a mark that distinguishes between apoptotic and repair responses to genotoxic stress (PubMed:19351884). Its function as histone phosphatase may contribute to its function in transcription regulation during organogenesis. Plays an important role in hypaxial muscle development together with SIX1 and DACH2; in this it is functionally redundant with EYA1 (PubMed:12500905).
Cellular Location	Cytoplasm. Nucleus Note=Retained in the cytoplasm via interaction with GNAZ and GNAI2 (PubMed:10906137). Interaction with SIX1, SIX2, SIX4 or SIX5 is required for translocation to the nucleus (PubMed:10906137, PubMed:12500905).
Tissue Location	Highest expression in muscle with lower levels in kidney, placenta, pancreas, brain and heart

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