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# ATOH8 Antibody

Catalog # ASC10878

## Product Information

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| **Application** | WB, E, IHC-P |
| **Primary Accession** | Q96SQ7 |
| **Other Accession** | NP_116216, 226498192 |
| **Reactivity** | Human, Mouse, Rat |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | IgG |
| **Calculated MW** | 34644 |
| **Concentration (mg/ml)** | 1 mg/mL |
| **Conjugate** | Unconjugated |
| **Application Notes** | ATOH8 antibody can be used for detection of ATOH8 by Western blot at 1 - 2 g/mL. Antibody can also be used for immunohistochemistry starting at 5 g/mL. |

## Additional Information

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| **Gene ID** | 84913 |
| **Other Names** | Protein atonal homolog 8, Class A basic helix-loop-helix protein 21, bHLHa21, Helix-loop-helix protein hATH-6, hATH6, ATOH8, ATH6, BHLHA21 |
| **Target/Specificity** | ATOH8; |
| **Reconstitution & Storage** | ATOH8 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures. |
| **Precautions** | ATOH8 Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | ATOH8 ( HGNC:24126) |
| **Synonyms** | ATH6, BHLHA21 |
| **Function** | Transcription factor that binds a palindromic (canonical) core consensus DNA sequence 5'-CANNTG- 3' known as an E-box element, possibly as a heterodimer with other bHLH proteins (PubMed:24236640). Regulates endothelial cell proliferation, migration and tube-like structures formation (PubMed:24463812). Modulates endothelial cell differentiation through NOS3 (PubMed:24463812). May be implicated in specification and differentiation of neuronal cell lineages in the brain (By similarity). May participate in kidney |

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| | development and may be involved in podocyte differentiation (By similarity). During early embryonic development is involved in tissue-specific differentiation processes that are dependent on class II bHLH factors and namely modulates the differentiation program initiated by the pro-endocrine factor NEUROG3 (By similarity). During myogenesis, may play a role during the transition of myoblasts from the proliferative phase to the differentiation phase (By similarity). Positively regulates HAMP transcription in two ways, firstly by acting directly on the HAMP promoter via E-boxes binding and indirectly through increased phosphorylation of SMAD protein complex (PubMed:24236640). Repress NEUROG3-dependent gene activation in a gene-specific manner through at least two mechanisms; requires only either the sequestering of a general partner such as TCF3 through heterodimerization, either also requires binding of the bHLH domain to DNA via a basic motif (By similarity). |
| **Cellular Location** | Nucleus. Nucleus speckle. Cytoplasm {ECO:0000250\|UniProtKB:Q99NA2} |
| **Tissue Location** | Expressed in lung, liver, kidney, heart and pancreas. Expressed in endothel of umbilical vessels |

## Background

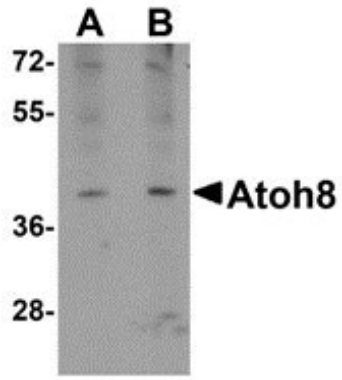
ATOH8 Antibody: Basic helix-loop-helix (bHLH) transcription factors play important roles in differentiation processes during embryonic development of vertebrates. ATOH8 (MATH6) is a tissue-restricted member of the atonal superfamily of bHLH transcription factors that exhibits 43-57% identity in the bHLH domain with other mammalian atonal paralogs including the NeuroD and Neurogenin factors. In the mouse, ATOH8 has been implicated in the specification and differentiation of neuronal cell lineages in the brain and may also participate in kidney development. Recent studies show that ATOH8 is a novel component of the pancreatic transcriptional network during embryonic development and suggest a potential role as a modulator of the differentiation program initiated by the pro-endocrine factor Neurog3. It is indispensable for early embryonic development, suggesting a more widespread function for this factor in tissue-specific differentiation processes that are dependent on class II bHLH genes.

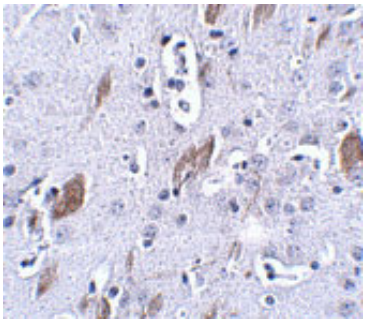
## References

Wasserman SM, Mehraban F, Komuves LG, et al. Gene expression profile of human endothelial cells exposed to sustained fluid shear stress. Physiol. Genomics 2002;12:13-23.
Ledent V and Vervoort M. The basic helix-loop-helix protein family: comparative genomics and phylogenetic analysis. Genome Res. 2001; 11:754-770.
Inoue C, Bae SK, Takatsuka K, et al. Math6, a bHLH gene expressed in the developing nervous system, regulates neuronal versus glial differentiation. Genes Cells 2001; 6:977-986.
Ross MD, Martinka S, Mukherjee A, et al. Math6 expression during kidney development and altered expression in a mouse model of glomerulosclerosis. Dev Dyn. 2006; 235:3102-3109.

## Images

Western blot analysis of ATOH8 in A-20 cell lysate with ATOH8 antibody at (A) 1 and (B) 2 µg/mL.



Immunohistochemistry of ATOH8 in mouse brain tissue with ATOH8 antibody at 5 µg/mL.

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