

ASCL2 Rabbit pAb

Catalog # AP97536

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q99929
Other Accession	Q99929
Reactivity	Human, Mouse
Predicted	Rat, Pig, Chicken, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	20185
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from Human ASCL2
Epitope Specificity	51-120/193
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 1 basic helix-loop-helix (bHLH) domain.
SUBUNIT	Efficient DNA binding requires dimerization with another bHLH protein.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Members of the myogenic determination family are basic helix-loop-helix (bHLH) proteins that can be separated into two classes, both of which work together to activate DNA transcription. Class A proteins include the ubiquitously expressed E-box binding factors, namely E2A, ITF-2 and HEB, while class B proteins, such as MyoD, myogenin and Neuro D (BETA2), are transiently expressed and exhibit a much more limited tissue distribution. Working in opposition to these positively acting factors are a specialized group of basic helix-loop-helix (bHLH) transcription factors that function as dominant negative regulators and are involved in cell lineage determination and differentiation. ASCL2 is a 193 amino acid protein that localizes to the nucleus and contains one bHLH domain. Expressed in developing placental tissue, ASCL2 binds to DNA and functions as a transcriptional regulator that is involved in the maturation of neuronal precursors in the peripheral and central nervous systems.

Additional Information

Gene ID	430
Other Names	ASH2; HASH2; MASH2; bHLHa45; 2410083I15Rik; ASCL2_HUMAN; ASCL2; ASH-2; Class A basic helix-loop-helix protein 45 (bHLHa45); ASCL2_MOUSE; mASH-2; ASCL2_RAT; achaete-scute family bHLH transcription factor 2; achaete-scute complex (Drosophila) homolog-like 2; achaete-scute complex-like 2 (Drosophila); achaete-scute complex homolog 2 (Drosophila)

Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,Flow-Cyt=2ug/Test
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	ASCL2
Synonyms	BHLHA45, HASH2
Function	Transcription factor. Binds to E-box motifs 5'-CANNTG-3' in the regulatory elements of target genes, probably as a heterodimer with another basic helix-loop-helix (bHLH) protein such as the transcription factor TCF3. May bind both open and closed chromatin, acting as a pioneer transcription factor to allow other factors to bind and activate lineage-specific genes. Required during post-implantation development for the generation of some differentiated trophoblast cell types. Transcriptional activity of ASCL2 may be antagonised in a subset of trophoblast cells by bHLH transcription factor HAND1, perhaps by competing for dimerization with other bHLH proteins. Involved in differentiation and function of follicular T-helper (Tfh) cells, thereby playing a role in germinal center responses; probably modulates expression of genes involved in Tfh cell function, such as BCL6. May also act as a suppressor of Th1-, Th2- and Th17-cell differentiation. Induces the formation of stem cells in intestinal crypts in vitro, synergistically activating transcription of target genes, such as SOX9, together with TCF4/beta-catenin. May form a bistable transcriptional switch, controlling expression of its own gene together with Wnt/R- spondin signaling, and thereby maintaining stem cell characteristics (By similarity). Modulates expression of target genes, including perhaps down-regulating EGR1/Krox24 and chemokine CXCL10/Mob-1 and up- regulating CXCR4 and CDKN1C/p57kip2, in Schwann cells. May play a role in reducing proliferation of Schwann cells, perhaps acting via modulation of expression of CDKN1C (By similarity). May be dispensable for blastocyst formation and later embryonic function (By similarity). May be involved in the determination of neuronal precursors (By similarity).
Cellular Location	Nucleus {ECO:0000255 PROSITE-ProRule:PRU00981, ECO:0000269 PubMed:11440538}
Tissue Location	Expressed in the placenta at a stage between the first and second trimesters and when it matures, at about 32-36 weeks (PubMed:12099555). Expressed in the extravillous trophoblasts, the intermediate trophoblasts, and at lower levels in the cytotrophoblasts and stroma of chorionic villi of the developing placenta (PubMed:12099555, PubMed:9175731). Expressed in follicular T-helper (Tfh) cells (PubMed:24463518).

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