

# ASCL1 Antibody / Achaete-scute homolog 1 (FY12577)

Catalog No.	Formulation	Size
FY12577	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

## **Bulk quote request**

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P50553
Applications	Western Blot: 0.25-0.5ug/ml Immunohistochemistry: 2-5ug/ml Flow Cytometry: 1-3ug/million cells
Limitations	This ASCL1 antibody is available for research use only.

## **Description**

ASCL1 antibody detects Achaete-scute homolog 1, a basic helix-loop-helix (bHLH) transcription factor that directs neuronal differentiation and development. ASCL1 acts as a master regulator of neurogenesis by activating transcriptional programs required for neuronal commitment and inhibiting progenitor cell proliferation. The ASCL1 antibody is widely used in developmental biology, stem cell research, and neuro-oncology to examine neuronal fate specification and transcriptional regulation.

ASCL1 is encoded by the ASCL1 gene on human chromosome 12q23.2. The protein is approximately 194 amino acids long and contains a highly conserved bHLH domain that mediates DNA binding and dimerization with E proteins. ASCL1 recognizes E-box motifs within target gene promoters to activate transcription of neuronal genes, including those involved in axon guidance, neurotransmitter synthesis, and synaptic formation.

The ASCL1 antibody detects a 45 kilodalton protein by western blot and exhibits nuclear staining in differentiating neuronal populations. ASCL1 expression peaks during early neurogenesis and declines as cells mature into neurons. It functions in concert with other transcription factors such as NEUROD1 and POU3F2 to coordinate the transition from proliferating progenitors to postmitotic neurons.

In addition to its developmental role, ASCL1 is reactivated in neuroendocrine tumors such as small-cell lung carcinoma, where it drives expression of genes promoting proliferation and neuroendocrine identity. ASCL1 also serves as a key transcriptional reprogramming factor used to convert fibroblasts into induced neurons in vitro, illustrating its capacity to initiate neuronal gene networks in non-neural cells.

Because ASCL1 integrates differentiation and proliferation control, it serves as a critical model for studying lineage specification and transcriptional reprogramming. NSJ Bioreagents provides a validated ASCL1 antibody optimized for western blot, immunohistochemistry, and chromatin analysis, supporting research into neuronal differentiation, tumor biology, and transcriptional regulation.

#### **Application Notes**

Optimal dilution of the ASCL1 antibody should be determined by the researcher.

#### **Immunogen**

A synthetic peptide corresponding to a sequence at the C-terminus of human ASCL1 was used as the immunogen for the ASCL1 antibody.

### **Storage**

After reconstitution, the ASCL1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.