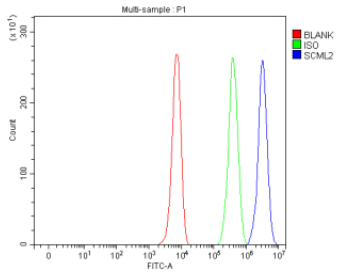
SCML2 Antibody / Sex comb on midleg-like protein 2 (FY13122)

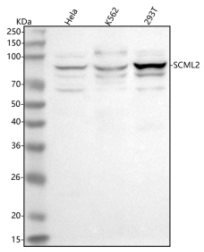
Catalog No.	Formulation	Size
FY13122	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
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	Q9UQR0
Applications	Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This SCML2 antibody is available for research use only.



Flow Cytometry analysis of human K562 cells using anti-SCML2 antibody. Overlay histogram showing K562 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-SCML2 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



Western blot analysis of SCML2 using anti-SCML2 antibody. Lane 1: human Hela whole cell lysates, Lane 2: human K562 whole cell lysates, Lane 3: human 293T whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-SCML2 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. SCML2 antibody detects a predominant band at ~85 kDa with additional weaker bands above and below in HeLa, K562, and 293T lysates. Although the calculated size is ~77 kDa, Polycomb proteins such as SCML2 often migrate larger due to post-translational modifications and chromatin-associated mobility, and alternative isoforms can resolve as closely spaced species.

Description

SCML2 antibody detects Sex comb on midleg-like protein 2, a Polycomb group protein involved in chromatin silencing and transcriptional repression. The UniProt recommended name is Sex comb on midleg-like protein 2 (SCML2). This epigenetic regulator participates in the formation of Polycomb repressive complexes that maintain gene silencing during development and differentiation.

Functionally, SCML2 antibody identifies a 715-amino-acid nuclear protein containing SAM and MBT domains that mediate protein-protein and chromatin interactions. SCML2 binds histone tails modified by methylation, such as H3K9me and H4K20me, to recruit other Polycomb factors and repress transcription. It is particularly enriched in testis, suggesting specialized functions in germ cell chromatin organization.

The SCML2 gene is located on the X chromosome (Xp22.12) and is expressed in germ cells, embryonic tissues, and certain somatic cells. SCML2 coordinates chromatin compaction and transcriptional silencing by recognizing repressive histone marks and interacting with PRC1 components. It contributes to maintaining stem cell identity and regulating spermatogenesis.

Pathologically, altered SCML2 expression has been linked to developmental defects, infertility, and cancer. Dysregulation may disrupt Polycomb-mediated silencing, leading to aberrant gene expression and loss of epigenetic stability. Research using SCML2 antibody aids in studying chromatin biology, gene silencing, and germline development.

SCML2 antibody is validated for western blotting, chromatin immunoprecipitation, and immunofluorescence to detect Polycomb group proteins. NSJ Bioreagents provides SCML2 antibody reagents optimized for studies in epigenetics, germ cell biology, and transcriptional regulation.

Structurally, Sex comb on midleg-like protein 2 contains a sterile alpha motif (SAM) domain for protein dimerization and two MBT repeats that bind methylated histones. This antibody enables research into SCML2's role in epigenetic repression and chromatin organization.

Application Notes

Optimal dilution of the SCML2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human SCML2 recombinant protein (Position: D337-I647) was used as the immunogen for the SCML2 antibody.

Storage

After reconstitution, the SCML2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at

-20oC. Avoid repeated freezing and thawing.

Copyright © NSJ Bioreagents. All rights reserved.