abcam

ab271940

Anti-PU.1/Spi1 antibody [SP238] - BSA and Azide free

Recombinant | RabMAb | Advanced Validation

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	SP238
Purification technique	Affinity purification Protein A/G
Concentration	1.041 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS by protein A/G.

Reactivity data

IHC-P

Tested

Species	Human

Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat, Pig
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat, Pig
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat, Pig
Dilution info	-
Notes	-

ChIC/CUT&RUN-seq

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat, Pig
Dilution info	-
Notes	-

Target data

See full target information SPI1

Function

Pioneer transcription factor, which controls hematopoietic cell fate by decompacting stem cell heterochromatin and allowing other transcription factors to enter otherwise inaccessible genomic sites. Once in open chromatin, can directly control gene expression by binding genetic regulatory elements and can also more broadly influence transcription by recruiting transcription factors, such as interferon regulatory factors (IRFs), to otherwise inaccessible genomic regions (PubMed:23658224, PubMed:33951726). Transcriptionally activates genes important for myeloid and lymphoid lineages, such as CSF1R (By similarity). Transcriptional activation from certain promoters, possibly containing low affinity binding sites, is achieved cooperatively with other transcription factors. FCER1A transactivation is achieved in cooperation with GATA1 (By similarity). May be particularly important for the pro- to pre-B cell transition (PubMed:33951726). Binds (via the ETS domain) onto the purine-rich DNA core sequence 5'-GAGGAA-3', also known as the PU-box (PubMed:33951726). In vitro can bind RNA and interfere with pre-mRNA splicing (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Storage information	Do Not Freeze

Notes

ab271940 is the carrier-free version of ab183327.

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?

This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	PU.1 also known as Spi1 is a transcription factor that belongs to the ETS family of transcription factors. It plays a major role in gene regulation and is an important player in hematopoietic cell differentiation. PU.1 has a molecular mass of approximately 31 kDa and is predominantly expressed in hematopoietic cells such as myeloid and B-lymphoid cells. It actively interacts with specific DNA sequences to regulate the expression of target genes.
Biological function summary	PU.1 influences the development and function of various blood cells including macrophages neutrophils and B-cells. It is essential for the regulation of genes involved in immune responses cell proliferation and survival. PU.1 functions as part of a larger transcriptional regulatory complex and often partners with other transcription factors and coactivators to exert its effects. This cooperation allows precise gene expression control in specific cell lineages.

Pathways	Expression of PU.1 is critical in the hematopoietic development pathway and the immune response pathway. It closely interacts with other transcription factors like GATA-1 and C/EBPα forming a network that affects hematopoietic lineage commitment. Within these pathways PU.1 constantly coordinates signals that influence progenitor cell fate and differentiation ensuring a balanced proportion of cell types within the blood.
Associated diseases and disorders	PU.1 has significant implications in leukemia and other hematological malignancies. Dysregulation or mutation of PU.1 can lead to improper hematopoietic cell development and contribute to acute myeloid leukemia (AML) and other blood disorders. Additionally its expression level is closely linked with immune system function associating PU.1 indirectly with autoimmune conditions. In these contexts the interaction with other proteins like AML1 and C/EBPγ can influence disease pathogenesis by modulating gene expression patterns critical for normal hematopoietic and immune function.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

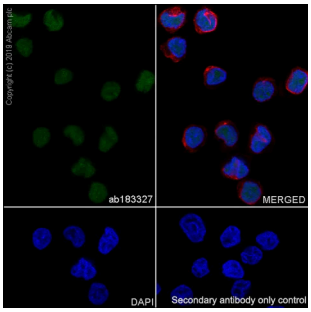
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

6 product images

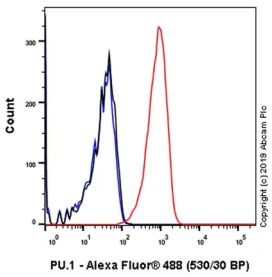


Immunocytochemistry/ Immunofluorescence - Anti-PU.1/Spi1 antibody [SP238] - BSA and Azide free (ab271940)

PU.1/Spi1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PU.1/Spi1 antibody

Immunocytochemistry/ Immunofluorescence analysis of Raji (human Burkitt's lymphoma B lymphocyte) cells labeling CD23 with purified ab135386 at 1/25 (7.48 µg/ml). Cells were fixed in 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.

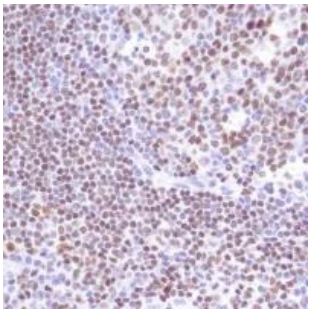
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab183327).



Flow Cytometry (Intracellular) - Anti-PU.1/Spi1 antibody [SP238] - BSA and Azide free (ab271940)

PU.1/Spi1 Flow Cytometry (Intracellular) staining using rabbit Anti-PU.1/Spi1 antibody

Intracellular Flow Cytometry analysis of THP-1 (human monocytic leukemia monocyte) cells labeling PU.1/Spi1 with purified ab183327 at 1/200 dilution (0.715µg/ml) (Red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor© 488, ab150081) secondary antibody was used at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (ab172730) / Black. Unlabeled control - Unlabelled cells / blue.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab183327).

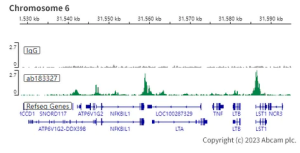


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PU.1/Spi1 antibody [SP238] - BSA and Azide free (ab271940)

PU.1/Spi1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PU.1/Spi1 antibody

Immunohistochemical analysis of paraffin embedded Human tonsil tissue labeling PU.1/Spi1 with ab183327 at 1/100.

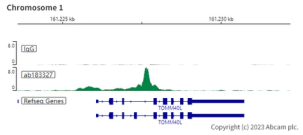
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ChIC/CUT&RUN sequencing - Anti-PU.1/Spi1 antibody [SP238] - BSA and Azide free (ab271940)

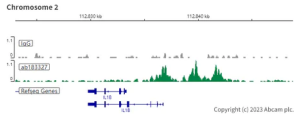
"This data was developed using the same antibody clone in a different buffer formulation (ab183327). ChIC/CUT&RUN was performed using a pAG-MNase at a final concentration of 700 ng/mL, 2.5 x 10^5 THP-1 (Human monocytic leukemia monocyte) cells and 5 µg of ab183327 [SP238]. The resulting DNA was sequenced on the Illumina NovaSeq 6000 to a depth of 10 million

reads. The negative IgG control ab172730 is also shown. The University of Geneva owns patents relevant to ChIC (Chromatin Immuno-Cleavage) methods."



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