abcam

Product datasheet

Anti-Tet2 antibody ab124297

KO VALIDATED

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Overview

Product name	Anti-Tet2 antibody
Description	Rabbit polyclonal to Tet2
Host species	Rabbit
Specificity	From Jan 2024, QC testing of replenishment batches of this polyclonal changed. All tested and expected application and reactive species combinations are still covered by our Abcam product promise. However, we no longer test all applications. For more information on a specific batch, please contact our Scientific Support who will be happy to help.
Tested applications	**Suitable for:** WB, ICC/IF
Species reactivity	**Reacts with:** Mouse **Predicted to work with:** Human
Immunogen	Synthetic peptide corresponding to Mouse Tet2 aa 1600-1700 conjugated to keyhole limpet haemocyanin. Database link: **Q4JK59**
Positive control	WB: E14Tg2A wild type mouse ES whole cell lysate.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide

Constituent: PBS

Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help.

Purity Immunogen affinity purified

Clonality Polyclonal

Isotype IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab124297 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★★★ (4)	1/250. Detects a band of approximately 223 kDa (predicted molecular weight: 223 kDa).
ICC/IF	★★★★★ (3)	Use a concentration of 1 µg/ml.

Target

Function Catalyzes the conversion of methylcytosine (5mC) to 5-hydroxymethylcytosine (hmC). Plays an important role in myelopoiesis. The clear function of 5-hydroxymethylcytosine (hmC) is still unclear but it may influence chromatin structure and recruit specific factors or may constitute an intermediate component in cytosine demethylation.

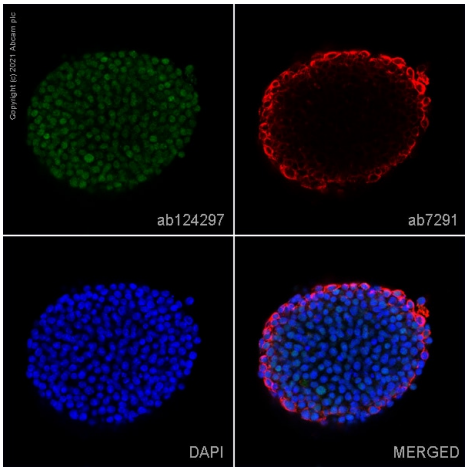
Tissue specificity Broadly expressed. Highly expressed in hematopoietic cells; highest expression observed in granulocytes. Expression is reduced in granulocytes from peripheral blood of patients affected by myelodysplastic syndromes.

Involvement in disease Note=TET2 is frequently mutated in myeloproliferative disorders (MPD). These constitute a heterogeneous group of disorders, also known as myeloproliferative diseases or myeloproliferative neoplasms (MPN), characterized by cellular proliferation of one or more hematologic cell lines in the peripheral blood, distinct from acute leukemia. Included diseases are: essential thrombocythemia, polycythemia vera, primary myelofibrosis (chronic idiopathic myelofibrosis). Bone marrow samples from patients display uniformly low levels of hmC in genomic DNA compared to bone marrow samples from healthy controls as well as hypomethylation relative to controls at the majority of differentially methylated CpG sites.
Defects in TET2 are a cause of polycythemia vera (PV) [MIM:263300]. A myeloproliferative disorder characterized by abnormal proliferation of all hematopoietic bone marrow elements, erythroid hyperplasia, an absolute increase in total blood volume, but also by myeloid leukocytosis, thrombocytosis and splenomegaly.
Note=TET2 is frequently mutated in systemic mastocytosis; also known as systemic mast cell disease. A condition with features in common with myeloproliferative diseases. It is a clonal disorder of the mast cell and its precursor cells. The clinical symptoms and signs of systemic mastocytosis are due to accumulation of clonally derived mast cells in different tissues, including bone marrow, skin, the gastrointestinal tract, the liver, and the spleen.
Note=TET2 is frequently mutated in myelodysplastic syndromes, a heterogeneous group of

closely related clonal hematopoietic disorders. All are characterized by a hypercellular or hypocellular bone marrow with impaired morphology and maturation, dysplasia of the myeloid, megakaryocytic and/or erythroid lineages, and peripheral blood cytopenias resulting from ineffective blood cell production. Included diseases are: refractory anemia (RA), refractory anemia with ringed sideroblasts (RARS), refractory anemia with excess blasts (RAEB), refractory cytopenia with multilineage dysplasia and ringed sideroblasts (RCMD-RS). Chronic myelomonocytic leukemia (CMML) is a myelodysplastic/myeloproliferative disease. Myelodysplastic syndromes are considered a premalignant condition in a subgroup of patients that often progresses to acute myeloid leukemia (AML). Bone marrow samples from patients display uniformly low levels of hmC in genomic DNA compared to bone marrow samples from healthy controls as well as hypomethylation relative to controls at the majority of differentially methylated CpG sites.

Sequence similarities Belongs to the TET family.

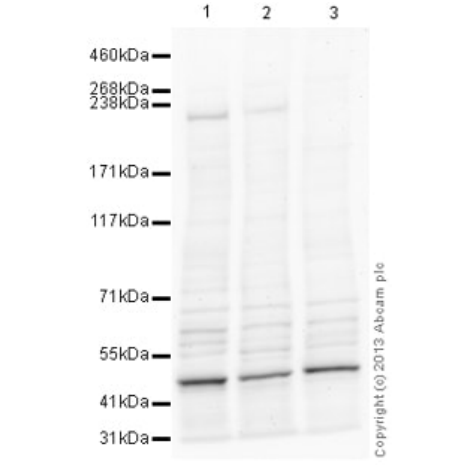
Images



Immunocytochemistry/ Immunofluorescence - Anti-Tet2 antibody (ab124297)

ab124297 staining Tet2 in mES cells. The cells were fixed with 4% paraformaldehyde (10 min), permeabilized with 0.1% PBS-Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at 4°C with ab124297 at 1µg/ml and **ab7291**, Mouse monoclonal [DM1A] to alpha Tubulin - Loading Control. Cells were then incubated with **ab150081**, Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 488), pre-adsorbed at 1/1000 dilution (shown in green) and **ab150120**, Goat polyclonal Secondary Antibody to Mouse IgG - H&L (Alexa Fluor® 594), pre-adsorbed at 1/1000 dilution (shown in pseudocolour red). Nuclear DNA was labelled with DAPI (shown in blue).

Image was acquired with a confocal microscope (Leica-Microsystems TCS SP8) and a single confocal section is shown.



Western blot - Anti-Tet2 antibody (ab124297)

All lanes : Anti-Tet2 antibody (ab124297) at 1/250 dilution (Milk blocking - 1%)

Lane 1 : E14Tg2a (Mouse embryonic stem cell line) Whole Cell Lysate
Lane 2 : WT Mouse ES Cell Lysate (Positive Control for Tet2)
Lane 3 : Tet2 Knockout Mouse ES Cell Lysate (Negative Control)

Lysates/proteins at 25 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/10000 dilution

Developed using the ECL technique.

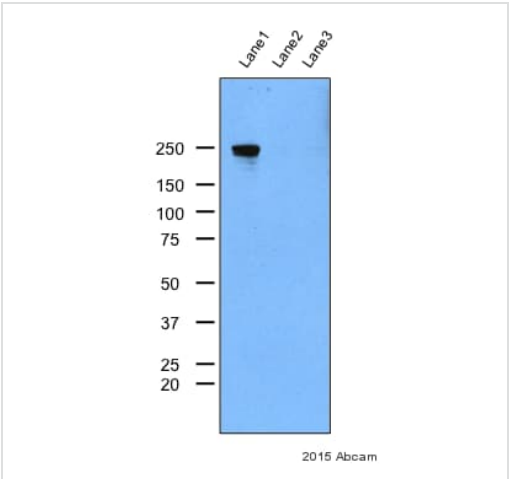
Performed under reducing conditions.

Predicted band size: 223 kDa
Observed band size: 223 kDa
Additional bands at: 48 kDa (possible non-specific binding), 65 kDa (possible non-specific binding), 70 kDa (possible non-specific binding)

Exposure time: 4 minutes

This blot was produced using a 3-8% Tris Acetate gel under the TA buffer system. The gel was run at 150V for 60 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using 1% Milk before being incubated with ab124297 overnight at 4°C. Antibody binding was detected using an anti-rabbit antibody conjugated to HRP, and visualised using ECL development solution.

Secondary antibody - goat **anti-rabbit HRP** (**ab97051**)



Western blot - Anti-Tet2 antibody (ab124297)
This image is courtesy of an anonymous abreview

All lanes : Anti-Tet2 antibody (ab124297) at 1/1000 dilution (Incubated for 12 hours at 4°C)

Lane 1 : Wild type mouse embryonic stem cells with Milk, 1 hour at 21°C
Lane 2 : Tet2 KO clone#1 mouse embryonic stem cells with Milk, 1 hour at 21°C
Lane 3 : Tet2 KO clone#2 mouse embryonic stem cells with Milk, 1 hour at 21°C

Lysates/proteins at 20 µg per lane.

Blocking peptides at 5 % per lane.

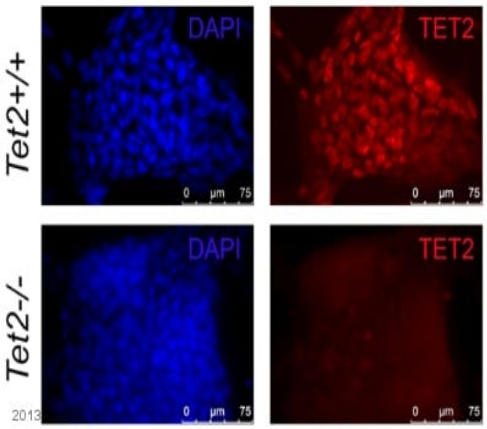
Secondary
All lanes : HRP conjugated Goat anti-rabbit IgG at 1/10000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 223 kDa

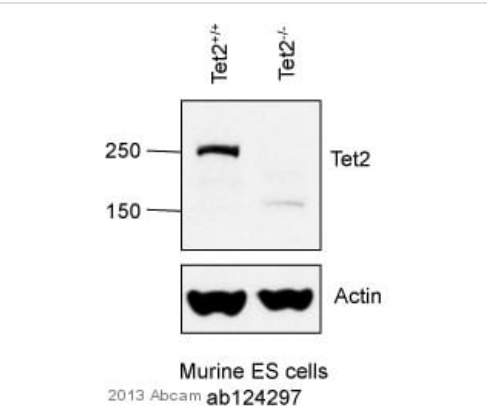
Exposure time: 5 minutes



Immunocytochemistry/ Immunofluorescence - Anti-Tet2 antibody (ab124297)

This image is courtesy of an anonymous abreview.

ICC/IF image of Anti-Tet2 antibody (ab124297) stained WT and $Tet2^{-/-}$ mouse ES cells. The cells were fixed in PFA, permeabilized using 0.25% Triton X-100, and blocked with 10% BSA for 30 minutes. The cells were then incubated with ab124297 at a 1/400 dilution for 13 hours and 20 minutes at $4^{o}C$. The secondary antibody was a Rhodamine Red-X AffiniPure Donkey anti-Rabbit used at a 1/500 dilution.



Western blot - Anti-Tet2 antibody (ab124297)

This image is courtesy of an anonymous abreview.

All lanes : Anti-Tet2 antibody (ab124297) at 1/500 dilution

Lane 1 : Wild-type mouse embryonic stem cells
Lane 2 : Tet2-/- mouse embryonic stem cells

Lysates/proteins at 20 µg per lane.

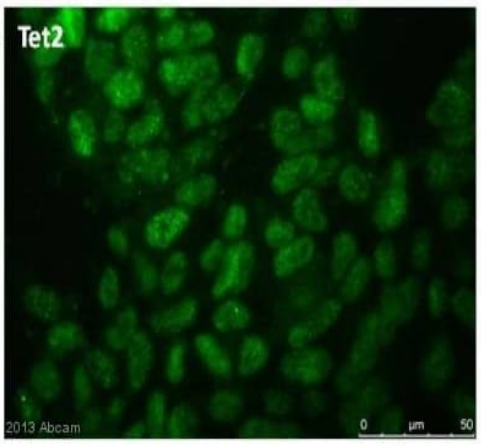
Secondary
All lanes : Goat anti-Rabbit (whole molecules) IgG HRP at 1/3000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 223 kDa
Observed band size: 250 kDa

Exposure time: 2 minutes



Immunocytochemistry/ Immunofluorescence - Anti-Tet2 antibody (ab124297)

This image is courtesy of an abreview from Joe Segal.

ICC/IF image of Anti-Tet2 antibody (ab124297) stained D3 mouse ES cells. The cells were fixed in 4% PFA, permeabilized using 0.1% Triton X-100, and blocked with 1% Goat serum, 0.1% BSA in PBS for 30 minutes. The cells were then incubated with ab124297 at a 1/100 dilution for 2 hours at RT. The secondary antibody was a Goat polyclonal Secondary Antibody to Rabbit IgG – H&L Alexa Fluor 488 (**ab150077**) used at a 1/200 dilution.

Secondary antibody - goat **anti-rabbit Alexa 488** (**ab150077**)

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