Phospho-RNA pol II CTD (Ser5) Monoclonal Antibody (4H8)

Product Details	
Size	100 µg
Species Reactivity	Human, Mouse, Yeast
Published Species	Human
Host/Isotype	Mouse / IgG1
Class	Monoclonal
Type	Antibody
Clone	4H8
Conjugate	Unconjugated
Immunogen	Chemically synthesized phospho-ser 5 YSPTSpPS (Human).
Form	Liquid
Concentration	1 mg/mL
Purification	Protein G
Storage buffer	PBS
Contains	no preservative
Storage conditions	-20°C
RRID	AB_1018366

Applications	Tested Dilution	Publications
Western Blot (WB)	1:1,000-1:20,000	3 Publications
Immunohistochemistry (Paraffin) (IHC (P))	1:10-1:100	-
Immunocytochemistry (ICC/IF)	1:50 - 1:100	-
ELISA (ELISA)	1:100-1:2,000	-
Immunoprecipitation (IP)	1-5 µg	1 Publication
ChIP assay (ChIP)	1-10 µL	2 Publications
RNA Immunoprecipitation (RIP)	Assay-dependent	-
CUT&RUN (C&R)	Assay-dependent	-

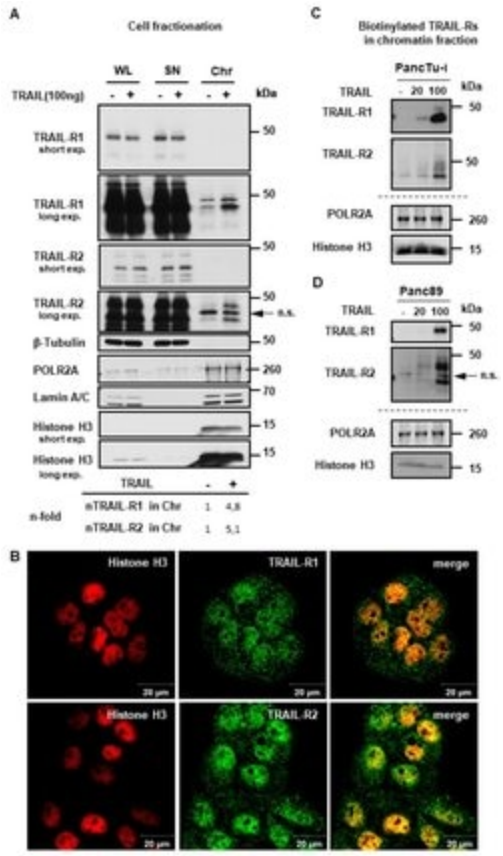
Product Specific Information

MA1-46093 reacts with DNA-directed RNA Polymerase II Largest Subunit in human, yeast and mouse samples. Expected to cross-react with Drosophilia melanogaster, hamster, S. pombe, and Arabidopsis thaliana due to sequence homology.

MA1-46093 has been successfully used in Western Blot, Chromatin Immunoprecipitation, ELISA, Immunocytochemistry /Immunofluorescence, IHC (P) and Immunoprecipitation applications.

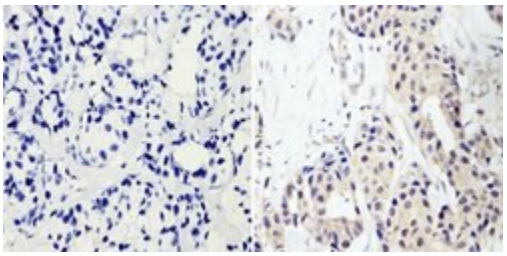
The MA1-46093 immunogen is 10 repeats of synthetic peptide YSPTSPS using chemically synthesized phospho-Ser 5 YSPTSpPS (Human). This antibody detects both the phosphorylated and non-phosphorylated forms.

Advanced Verification Data



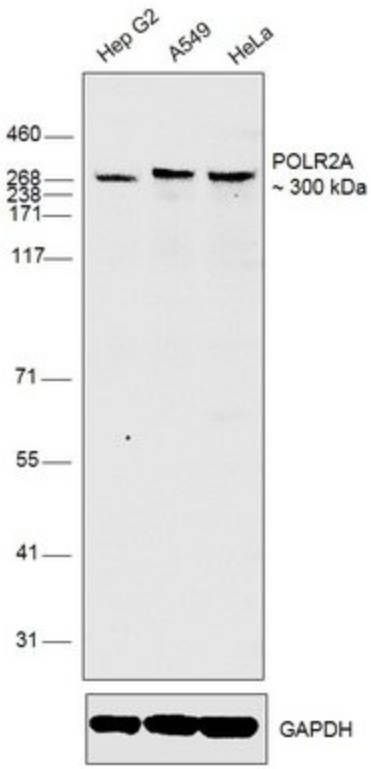
Phospho-RNA pol II CTD (Ser5) Antibody (MA1-46093)
Figure 8 TRAIL-R1 and TRAIL-R2 are enriched in the chromatin fraction upon TRAIL stimulation. (A) PancTu-I cells were stimulated with 100 ng TRAIL for one hour. The obtained chromatin fractions (Chr) were analyzed by Western blotting and compared to the supernatant (SN) and to the whole cell lysate (WL). Markers for different subcellular fraction have been included as follows, ß-Tubulin (cytoplasmic marker), RNA polymerase 2A (POLR2A) and Histone H3 (chromatin markers), Lamin A/C (nuclear marker). Band intensities of nTRAIL-R1 and nTRAIL-R2 bands were analyzed by densitometry in relation to POL2A and normalized to untreated controls. (B) Co-localization of TRAIL-R1 or TRAIL-R2 with Histone H3 in PancTu-I cells was studied by immunofluorescence and confocal LSM. (C,D) Plasma membrane proteins of PancTu-I and Panc89 cells were labeled with biotin for 1 h at 4 °C, followed by 1 h incubation at 37 °C with or without stimulation with TRAIL in indicated concentrations. Chromatin isolation was done as described in Material and Methods. Biotinylated proteins purified from chromatin fractions were analyzed in Western blot for the presence of TRAIL-R1 and TRAIL-R2. Lysates from chromatin fractions were immunoblotted for nuclear markers (POLR2A and Histone H3) as control for the equal amounts of extracts used for purification of biotinylated-proteins. Cell treatment validation info.

Product Images For Phospho-RNA pol II CTD (Ser5) Monoclonal Antibody (4H8)



Phospho-RNA pol II CTD (Ser5) Antibody (MA1-46093) in IHC (P)
Immunohistochemistry analysis of RNA Polymerase II CTD showing staining in the nucleus and cytoplasm of paraffin-embedded human breast carcinoma (right) compared with a negative control without primary antibody (left). To expose target proteins, antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H2O2-methanol for 15 min at room temperature, washed with ddH2O and PBS, and then probed with a RNA Polymerase II CTD monoclonal antibody (Product # MA1-46093) diluted in 3% BSA-PBS at a dilution of 1:20 overnight at 4°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.

Phospho-RNA pol II CTD (Ser5) Antibody (MA1-46093) in WB
Western blot was performed using Anti-POLR2A Monoclonal Antibody (Product # MA1-46093) and ~300kDa band corresponding to POLR2A was observed across cell lines tested. Whole cell extracts (40 µg lysate) of Hep G2 (Lane 1), A549 (Lane 2) and HeLa (Lane 3) were electrophoresed using NuPAGE® 10% Bis-Tris gel (Product # NP0302BOX). Resolved proteins were then transferred onto a nitrocellulose membrane (Product # LC2001) by XCell SureLock® Mini-Cell and XCell II® Blot Module (Product # EI0002). The blot was probed with the primary antibody (1:2000 dilution) and detected by chemiluminescence with Goat anti-Mouse IgG (H+L)



Superclonal™ Recombinant Secondary Antibody, HRP (Product # A28177, 1:4000 dilution) using the iBright FL 1000 (Product # A32752). Chemiluminescent detection was performed using Novex® ECL Chemiluminescent Substrate Reagent Kit (Product # WP20005).

View more figures on thermofisher.com

6 References

Western Blot (3)

Cell discovery

Loss of ASXL1 in the bone marrow niche dysregulates hematopoietic stem and progenitor cell fates.

"Published figure using POLR2A monoclonal antibody (Product # MA1-46093) in Immunoprecipitation"

Authors: Zhang P,Chen Z,Li R,Guo Y,Shi H,Bai J,Yang H,Sheng M,Li Z,Li J,Chen S,Yuan W,Cheng T,Xu M,Zhou Y,Yang FC

Species
Not Applicable

Dilution
Not Cited

Year
2020

Cancers

TRAIL Induces Nuclear Translocation and Chromatin Localization of TRAIL Death Receptors.

"MA1-46093 was used in Western Blotting to highlight the novel role for surface-activated TRAIL-Rs by direct trafficking and signaling into the nucleus, a previously unknown signaling principle for cell surface receptors that belong to the TNF-superfamily."

Authors: Mert U,Adawy A,Scharff E,Teichmann P,Willms A,Haselmann V,Colmorgen C,Lemke J,von Karstedt S,Fritsch J,Trauzold A

Species
Human

Dilution
Not Cited

Year
2019

View more WB references on thermofisher.com

Immunoprecipitation (1)

Cell discovery

Loss of ASXL1 in the bone marrow niche dysregulates hematopoietic stem and progenitor cell fates.

"Published figure using POLR2A monoclonal antibody (Product # MA1-46093) in Immunoprecipitation"

Authors: Zhang P,Chen Z,Li R,Guo Y,Shi H,Bai J,Yang H,Sheng M,Li Z,Li Z,Li J,Chen S,Yuan W,Cheng T,Xu M,Zhou Y,Yang FC

Species
Not Applicable

Dilution
Not Cited

Year
2020

ChIP assay (2)

Cell death and differentiation

p53 suppresses muscle differentiation at the myogenin step in response to genotoxic stress.

"MA1-46093 was used in Chromatin immunoprecipitation to reveal a mechanistic link between p53 and muscle differentiation."

Authors: Yang ZJ,Broz DK,Noderer WL,Ferreira JP,Overton KW,Spencer SL,Meyer T,Tapscott SJ,Attardi LD,Wang CL

Species
Human

Dilution
Not Cited

Year
2015

More applications with references on thermofisher.com