


Anti-Smad3 antibody - CHIP Grade ab227223

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概述

产品名称	Anti-Smad3抗体- CHIP Grade
描述	兔多克隆抗体to Smad3 - CHIP Grade
宿主	Rabbit
经测试应用	适用于: IHC-P, WB, ICC/IF, IP, ChIP
种属反应性	与反应: Mouse, Rat, Human 预测可用于: Chicken, Cow, Dog, Pig, Xenopus laevis, Rhesus monkey 
免疫原	Recombinant fragment within Human Smad3 (internal sequence). The exact sequence is proprietary. Database link: P84022
阳性对照	WB: Jurkat whole cell lysate; Mouse and rat brain tissue extracts. IP: HeLa whole cell lysate. IHC-P: Human gastric cancer tissue. ICC/IF: HeLa cells. ChIP: Chromatin from HeLa whole cell lysate.
常规说明	<p>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.</p> <p>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</p>

性能

形式	Liquid
存放说明	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
存储溶液	pH: 7.00 Preservative: 0.025% Proclin 300 Constituents: 79% PBS, 20% Glycerol (glycerin, glycerine)
纯度	Immunogen affinity purified
克隆	多克隆
同种型	IgG

应用

The Abpromise guarantee

Abpromise™承诺保证使用ab227223于以下的经测试应用

“应用说明”部分 下显示的仅为推荐的起始稀释度;实际最佳的稀释度/浓度应由使用者检定。

应用	Ab评论	说明
IHC-P		1/100 - 1/1000.
WB		1/1000 - 1/10000. Predicted molecular weight: 48 kDa.
ICC/IF		1/100 - 1/1000.
IP		1/100 - 1/500.
ChIP		Use at an assay dependent concentration.

靶标

功能	<p>Receptor-regulated SMAD (R-SMAD) that is an intracellular signal transducer and transcriptional modulator activated by TGF-beta (transforming growth factor) and activin type 1 receptor kinases. Binds the TRE element in the promoter region of many genes that are regulated by TGF-beta and, on formation of the SMAD3/SMAD4 complex, activates transcription. Also can form a SMAD3/SMAD4/JUN/FOS complex at the AP-1/SMAD site to regulate TGF-beta-mediated transcription. Has an inhibitory effect on wound healing probably by modulating both growth and migration of primary keratinocytes and by altering the TGF-mediated chemotaxis of monocytes. This effect on wound healing appears to be hormone-sensitive. Regulator of chondrogenesis and osteogenesis and inhibits early healing of bone fractures. Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator.</p>
疾病相关	<p>Colorectal cancer Loeys-Dietz syndrome 3</p>
序列相似性	<p>Belongs to the dwarfin/SMAD family. Contains 1 MH1 (MAD homology 1) domain. Contains 1 MH2 (MAD homology 2) domain.</p>
结构域	<p>The MH1 domain is required for DNA binding. Also binds zinc ions which are necessary for the DNA binding. The MH2 domain is required for both homomeric and heteromeric interactions and for transcriptional regulation. Sufficient for nuclear import. The linker region is required for the TGFbeta-mediated transcriptional activity and acts synergistically with the MH2 domain.</p>
翻译后修饰	<p>Phosphorylated on serine and threonine residues. Enhanced phosphorylation in the linker region on Thr-179, Ser-204 and Ser-208 on EGF and TGF-beta treatment. Ser-208 is the main site of MAPK-mediated phosphorylation. CDK-mediated phosphorylation occurs in a cell-cycle dependent manner and inhibits both the transcriptional activity and antiproliferative functions of SMAD3. This phosphorylation is inhibited by flavopiridol. Maximum phosphorylation at the G(1)/S junction. Also phosphorylated on serine residues in the C-terminal SXS motif by TGFBR1 and ACVR1. TGFBR1-mediated phosphorylation at these C-terminal sites is required for interaction with SMAD4, nuclear location and transactivational activity, and appears to be a prerequisite for</p>

the TGF-beta mediated phosphorylation in the linker region. Dephosphorylated in the C-terminal SXS motif by PPM1A. This dephosphorylation disrupts the interaction with SMAD4, promotes nuclear export and terminates TGF-beta-mediated signaling. Phosphorylation at Ser-418 by CSNK1G2/CK1 promotes ligand-dependent ubiquitination and subsequent proteasome degradation, thus inhibiting SMAD3-mediated TGF-beta responses. Phosphorylated by PDPK1. Acetylation in the nucleus by EP300 in the MH2 domain regulates positively its transcriptional activity and is enhanced by TGF-beta.

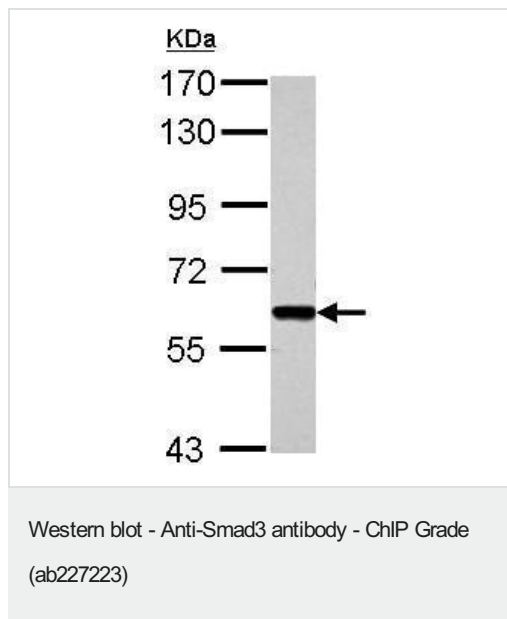
Ubiquitinated. Monoubiquitinated, leading to prevent DNA-binding. Deubiquitination by USP15 alleviates inhibition and promotes activation of TGF-beta target genes.

Poly-ADP-ribosylated by PARP1 and PARP2. ADP-ribosylation negatively regulates SMAD3 transcriptional responses during the course of TGF-beta signaling.

细胞定位

Cytoplasm. Nucleus. Cytoplasmic and nuclear in the absence of TGF-beta. On TGF-beta stimulation, migrates to the nucleus when complexed with SMAD4 (PubMed:15799969). Through the action of the phosphatase PPM1A, released from the SMAD2/SMAD4 complex, and exported out of the nucleus by interaction with RANBP1 (PubMed:16751101, PubMed:19289081). Co-localizes with LEMD3 at the nucleus inner membrane (PubMed:15601644). MAPK-mediated phosphorylation appears to have no effect on nuclear import (PubMed:19218245). PDPK1 prevents its nuclear translocation in response to TGF-beta (PubMed:17327236).

图片



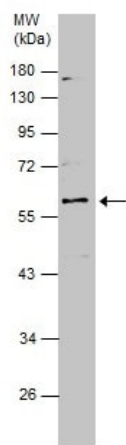
Anti-Smad3 antibody - ChIP Grade (ab227223) at 1/5000 dilution + Jurkat (human T cell leukemia cell line from peripheral blood) whole cell lysate at 30 µg

Secondary

HRP-conjugated anti-rabbit IgG

Predicted band size: 48 kDa

7.5% SDS-PAGE gel.



Western blot - Anti-Smad3 antibody - ChIP Grade
(ab227223)

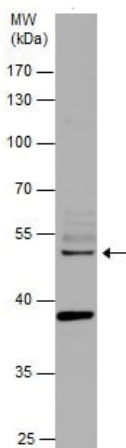
Anti-Smad3 antibody - ChIP Grade (ab227223) at 1/1000 dilution +
Rat brain tissue extract at 50 μ g

Secondary

HRP-conjugated anti-rabbit IgG

Predicted band size: 48 kDa

10% SDS-PAGE gel.



Western blot - Anti-Smad3 antibody - ChIP Grade
(ab227223)

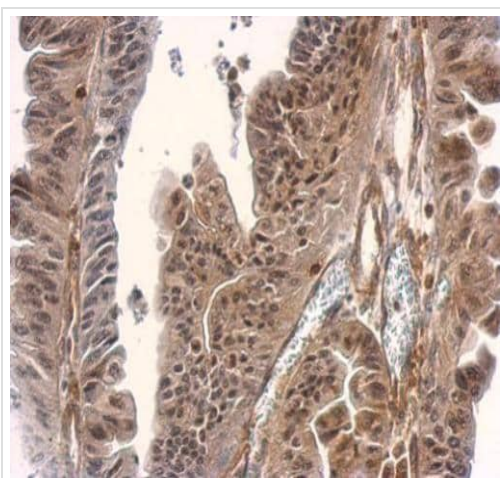
Anti-Smad3 antibody - ChIP Grade (ab227223) at 1/5000 dilution +
Mouse brain tissue extract at 50 μ g

Secondary

HRP-conjugated anti-rabbit IgG

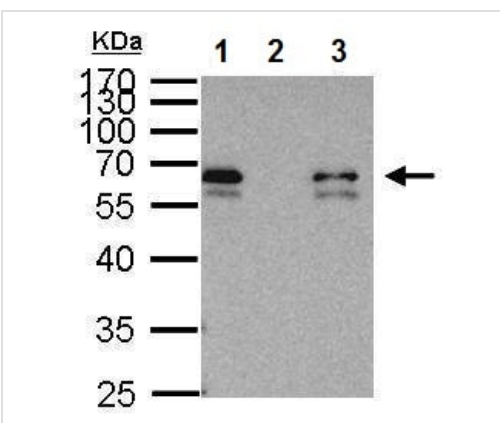
Predicted band size: 48 kDa

10% SDS-PAGE gel.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Smad3 antibody - ChIP Grade (ab227223)

Paraffin-embedded human gastric cancer tissue stained for Smad3 using ab227223 at 1/500 dilution in immunohistochemical analysis.



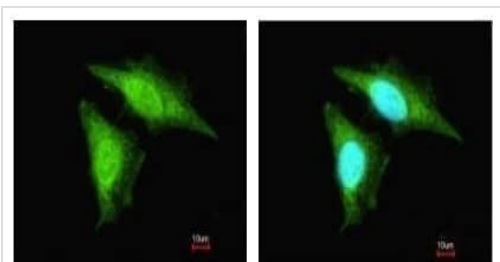
Immunoprecipitation - Anti-Smad3 antibody - ChIP Grade (ab227223)

Smad3 was immunoprecipitated from HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate with 2 μ g of ab227223. Western blot was performed from the immunoprecipitate using ab227223 at 1/1000 dilution. Anti-rabbit IgG was used as secondary antibody.

Lane 1: HeLa whole cell lysate 50 μ g (Input).

Lane 2: Preimmune rabbit IgG instead of ab227223 in HeLa whole cell lysate.

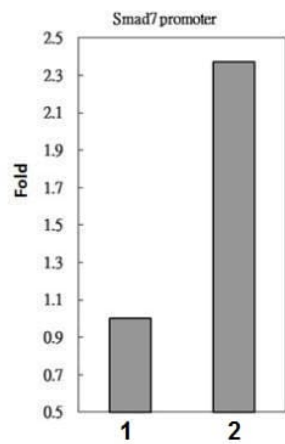
Lane 3: ab227223 IP in HeLa whole cell lysate.



Immunocytochemistry/ Immunofluorescence - Anti-Smad3 antibody - ChIP Grade (ab227223)

PFA-fixed HeLa (human epithelial cell line from cervix adenocarcinoma) cells stained for Smad3 (green) using ab227223 at 1/200 dilution in ICC/IF.

Nuclear Counterstain: Hoechst 33342.



ChIP - Anti-Smad3 antibody - ChIP Grade
(ab227223)

Chromatin was prepared from HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate. The ChIP was performed with 5 µg of preimmune rabbit IgG (Lane 1) and 5 µg of ab227223 (Lane 2). The immunoprecipitated DNA was detected by PCR with a primer set targeting to the smad7 promoter.

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