**Product datasheet**

**Anti-SOX9 antibody - ChIP Grade ab3697**

★★★★☆ 7 Abreviews  38 References  7 Images

**Overview**

**Product name**  Anti-SOX9 antibody - ChIP Grade

**Description**  Rabbit polyclonal to SOX9 - ChIP Grade

**Host species**  Rabbit

**Specificity**  The antibodies were evaluated for specificity with a dot blot assay using synthetically prepared SOX9 peptides. By immunoblot analysis, a ~65 kDa immunoreactive protein from mouse embryo cell lysate was detected (sample were boiled prior to subject 10% SDS-polyacrylamide gel electrophoresis). This band is abolished by the depletion of the synthetic peptide.

**Tested applications**  Suitable for: IHC-Fr, ICC/IF, WB, IP, ELISA, IHC-P, ChIP

**Species reactivity**  Reacts with: Mouse, Rat, Human

**Predicted to work with:**  Chicken, Cow

**Immunogen**  Synthetic peptide:
KYQPRRRKSVKNG
, corresponding to amino acids 173 - 185 of Human/ Mouse/ Bovine SOX 9.

**Positive control**  3T3 cells FFPE mouse e14 whole foetus tissue sections

**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**  Preservative: 0.02% Sodium azide

**Purity**  Immunogen affinity purified

**Clonality**  Polyclonal

**Isotype**  IgG

**Applications**

Our Abpromise guarantee covers the use of ab3697 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
**Function**
Plays an important role in the normal skeletal development. May regulate the expression of other genes involved in chondrogenesis by acting as a transcription factor for these genes.

**Involvement in disease**
Defects in SOX9 are the cause of campomelic dysplasia (CMD1) [MIM:114290]. CMD1 is a rare, often lethal, dominantly inherited, congenital osteochondrodysplasia, associated with male-to-female autosomal sex reversal in two-thirds of the affected karyotypic males. A disease of the newborn characterized by congenital bowing and angulation of long bones, unusually small scapulae, deformed pelvis and spine and a missing pair of ribs. Craniofacial defects such as cleft palate, micrognatia, flat face and hypertelorism are common. Various defects of the ear are often evident, affecting the cochlea, malleus incus, stapes and tympanum. Most patients die soon after birth due to respiratory distress which has been attributed to hypoplasia of the tracheobronchial cartilage and small thoracic cage.

**Sequence similarities**
Contains 1 HMG box DNA-binding domain.

**Cellular localization**
Nucleus.
ChiP analysis of 15P-1 cells using no antibody (lane 1), a control rabbit IgG (lane 2) or ab3697 (lane 3). DNA from the Er71 promoter (-334 to +28), an Er71 region ranging from exon 6 to exon 7, or the 3’-UTR of Sox9 (2664–3023) was PCR amplified.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human skin hair follicles labeling SOX9 with ab3697. Hematoxylin purple nuclear counterstain.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SOX9 antibody - ChIP Grade (ab3697)
This image is courtesy of an anonymous abreview.

IHC-P image of SOX9 (ab3697) on E11.5 mouse embryo sections. The sections were fixed in paraformaldehyde and underwent heat mediated antigen retrieval using Tris/EGTA (pH9). The sections were then blocked in 1% BSA solution for 30 mins at 20°C. In these images, ab3697 can be seen staining nuclei on the lumen surface of the brain (green).

Western blot - Anti-SOX9 antibody - ChIP Grade (ab3697)

Rabbit polyclonal antibody to Sox9 recognizes full length of Sox9 (left lane) and C-terminal deletion of Sox9 (right lane) (Compared to anti-Sox9 antibody from a different company - not shown).

This Western blot image was kindly supplied as part of the review submitted by Lilia Topol.

Immunofluorescence analysis of murine nucleus pulposus (NP) cells, staining SOX9 with ab3697. Left panel = 2 day vehicle treated control Right panel = 2 day cyclopamine treated cells
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SOX9 antibody - ChIP Grade (ab3697)

IHC image of SOX9 staining in mouse e14 whole foetus formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol B. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab3697, 1µg/ml, for 15 mins at room temperature. A goat anti-rabbit biotinylated secondary antibody was used to detect the primary, and visualized using an HRP conjugated ABC system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

Immunofluorescence analysis of murine nucleus pulposus (NP) cells, staining SOX9 with ab3697.
Left panel = control Shh flox mouse
Right panel = Shh mutant mouse

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