Product name: Anti-SMC3 antibody [EPR7984] ab128919

Description: Rabbit monoclonal [EPR7984] to SMC3

Host species: Rabbit

Tested applications: Suitable for: WB, IHC-P, Flow Cyt, ICC/IF

Unsuitable for: IP

Species reactivity: Reacts with: Mouse, Rat, Human

Immunogen: Synthetic peptide within Human SMC3 aa 1200 to the C-terminus (C terminal). The exact sequence is proprietary.

Database link: [Q9UQE7](Peptide available as ab209493)

Positive control: Human colon tissue. HeLa, A431, K562 and HepG2 cell lysates.

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

This product is a recombinant rabbit monoclonal antibody.

Properties

Form: Liquid

Storage instructions: Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.

Dissociation constant (K_D): K_D = 3.84 x 10^-11 M

Storage buffer: pH: 7.20
Preservative: 0.01% Sodium azide
Constituents: 9% PBS, 40% Glycerol, 0.05% BSA, 50% Tissue culture supernatant

Purity: Tissue culture supernatant
Clonality: Monoclonal
Clone number: EPR7984
Isotype: IgG

Applications

Our Abpromise guarantee covers the use of ab128919 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>WB</td>
<td></td>
<td>1/1000 - 1/10000. Predicted molecular weight: 141 kDa. Can be blocked with SMC3 peptide (ab209493).</td>
</tr>
<tr>
<td>IHC-P</td>
<td></td>
<td>1/100 - 1/250. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.</td>
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<tr>
<td>Flow Cyt</td>
<td></td>
<td>1/10 - 1/100. ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.</td>
</tr>
<tr>
<td>ICC/IF</td>
<td></td>
<td>1/100 - 1/250.</td>
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</table>

Application notes: Is unsuitable for IP.

Target

Function: Central component of cohesin, a complex required for chromosome cohesion during the cell cycle. The cohesin complex may form a large proteinaceous ring within which sister chromatids can be trapped. At anaphase, the complex is cleaved and dissociates from chromatin, allowing sister chromatids to segregate. Cohesion is coupled to DNA replication and is involved in DNA repair. The cohesin complex plays also an important role in spindle pole assembly during mitosis and in chromosomes movement.

Involvement in disease: Defects in SMC3 are the cause of Cornelia de Lange syndrome type 3 (CDLS3) [MIM:610759]. CDLS is a dominantly inherited multisystem developmental disorder characterized by growth and cognitive retardation, abnormalities of the upper limbs, gastroesophageal dysfunction, cardiac, ophthalmologic and genitourinary anomalies, hirsutism, and characteristic facial features. CDSL3 is a mild form with absence of major structural anomalies typically associated with CDLS. The phenotype in some instances approaches that of apparently non-syndromic mental retardation.

Sequence similarities: Belongs to the SMC family. SMC3 subfamily.

Domain: The flexible hinge domain, which separates the large intramolecular coiled coil regions, allows the heterotypic interaction with the corresponding domain of SMC1A or SMC1B, forming a V-shaped heterodimer. The two heads of the heterodimer are then connected by different ends of the cleavable RAD21 protein, forming a ring structure.

Post-translational modifications: Phosphorylated upon DNA damage, probably by ATM or ATR. Acetylation at Lys-105 and Lys-106 by ESCO1 is important for genome stability and S phase sister chromatid cohesion. Regulated by DSCC1, it is required for processive DNA synthesis, coupling sister chromatid cohesion establishment during S phase to DNA replication.

from chromatin probably because of phosphorylation by PLK, except at centromeres, where cohesin complexes remain. At anaphase, the RAD21 subunit of the cohesin complex is cleaved, leading to the dissociation of the complex from chromosomes, allowing chromosome separation.

Images

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SMC3 antibody [EPR7984] (ab128919)

Western blot - Anti-SMC3 antibody [EPR7984] (ab128919)

Other - Anti-SMC3 antibody [EPR7984] (ab128919)

ab128919 at 1/100 dilution staining SMC3 in paraffin-embedded Human colon tissue by immunohistochemistry.

All lanes: Anti-SMC3 antibody [EPR7984] (ab128919) at 1/1000 dilution

Lane 1: HeLa cell lysate
Lane 2: A431 cell lysate
Lane 3: K562 cell lysate
Lane 4: HepG2 cell lysate

Lysates/proteins at 10 µg per lane.

Secondary

All lanes: Goat anti-rabbit HRP at 1/2000 dilution

Predicted band size: 141 kDa

Equilibrium disassociation constant (K_D)

Learn more about K_D

Click here to learn more about K_D

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