Overview

**Product name**
Anti-Carcino Embryonic Antigen CEA antibody [26/3/13]  
**Description**
Mouse monoclonal [26/3/13] to Carcino Embryonic Antigen CEA  
**Host species**
Mouse  
**Specificity**
This antibody recognises exclusively CEACAM 5 transiently expressed on the cell surface of transfected BOSC cells. It can be used to distinguish CEACAM 5 from all other CEACAM and probably all pregnancy-specific glycoproteins molecules, namely CEACAM 1 (BGP/CD66a), CEACAM 3 (CGM1/CD66d), CEACAM 4 (CGM7), CEACAM 6 (NCA/CD66c), CEACAM 7 (CGM2), CEACAM 8 (CGM6/CD66b) and PSG1 (CD66f) based on its reactivity pattern with stable HeLa transfectants expressing individual CEA family members. This antibody was included and characterized in the studies from the VIth Leucocyte Typing Workshop (Grunert F *et al.* 1994)  
**Tested applications**
Suitable for: IHC-P, Sandwich ELISA, ELISA, Flow Cyt, WB, IHC-Fr  
**Species reactivity**
Reacts with: Human  
**Immunogen**
Full length native protein (partially purified) (Human) from a perchloric acid extract from liver metastases of colonic tumors (Grunert F, *et al.* 1985)  
**Positive control**
IHC-P: human normal colon tissue sections  
**General notes**
Antibodies produced from cDNA: Conventional technologies usually either generate antibodies against purified proteins, or against synthetic peptides based on amino acid sequences derived from DNA sequence data. Genetic immunization involves introducing the gene in the form of a cDNA directly into an animal which translates this cDNA into protein thus stimulating an immune response against the foreign protein. Although the synthetic peptide approach is comparable in speed, the quality of antibodies generated by genetic immunization is far superior. This is because the protein is made by the immunized animal, utilizing complex cellular mechanisms that allow it to gain a native conformation. Antibodies are then generated against a native protein, such as is found in the blood or tissues of its host species. Membrane-bound or secreted proteins often create problems for conventional antibody technology because in their native form, they are often modified by glycosylation, or in some cases exist as multiple membrane-spanning proteins that are not soluble following isolation or synthesis in recombinant systems. All of these problems are avoided if the immunized animal makes the protein itself. Antibodies generated by genetic immunization have been shown to have binding affinities to the protein in the sub-nanomolar range, which are approximately 100x higher than conventionally developed antibodies and much higher than single chain antibodies. Results confirm published data for much higher
avidity of sera generated by genetic immunization as compared with that gained by immunization with a corresponding recombinant protein.

Properties

Form
Liquid

Storage instructions
Shipped at 4°C. Store at +4°C short term (1-2 weeks). Store at -20°C or -80°C. Avoid freeze / thaw cycle.

Storage buffer
Preservative: 0.01% Sodium Azide
Constituents: PBS, pH 7.2

Purity
Protein G purified

Clonality
Monoclonal

Clone number
26/3/13

Isotype
IgG1

Applications

Our Abpromise guarantee covers the use of ab4451 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>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>IHC-P</td>
<td></td>
<td>Use a concentration of 5 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.</td>
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<tr>
<td>Sandwich ELISA</td>
<td></td>
<td>Use a concentration of 0.2 µg/ml. For sandwich ELISA, use this antibody as Capture at 0.2µg/ml</td>
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<tr>
<td>ELISA</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
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<tr>
<td>Flow Cyt</td>
<td></td>
<td>Use at an assay dependent concentration. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.</td>
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<tr>
<td>WB</td>
<td></td>
<td>Use at an assay dependent concentration. Predicted molecular weight: 84 kDa.</td>
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<tr>
<td>IHC-Fr</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
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</table>

Target

Function
Cell surface glycoprotein that plays a role in cell adhesion and in intracellular signaling. Receptor for E.coli Dr adhesins.

Tissue specificity
Found in adenocarcinomas of endodermally derived digestive system epithelium and fetal colon.

Sequence similarities
Belongs to the immunoglobulin superfamily. CEA family. Contains 7 Ig-like (immunoglobulin-like) domains.
Post-translational modifications

Complex immunoreactive glycoprotein with a MW of 180 kDa comprising 60% carbohydrate.

Cellular localization

Cell membrane.

Images

IHC image of Carcino Embryonic Antigen CEA staining in human normal colon formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. 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 ab4451, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer 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.

Standard Curve for Carcino Embryonic Antigen CEA dilution range 1pg/ml to 1ug/ml using Capture Antibody Mouse monoclonal [26/3/13] to Carcino Embryonic Antigen CEA (ab4451) at 0.2ug/ml and Detector Antibody Rabbit polyclonal to Carcino Embryonic Antigen CEA (ab15987) at 0.5ug/ml

Please note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE"

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