**Product datasheet**

**Anti-Angiopoietin 1 antibody ab8451**

**Overview**

**Product name**  
Anti-Angiopoietin 1 antibody

**Description**  
Rabbit polyclonal to Angiopoietin 1

**Host species**  
Rabbit

**Tested applications**  
Suitable for: IHC-P, WB, IHC-Fr

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

**Immunogen**  
Synthetic peptide corresponding to Mouse Angiopoietin 1 aa 21-40 (N terminal). Sequence:
CNQRRNPENGRRYRIQHGQ

Database link: O08538  
(Peptide available as ab9076)

**General notes**

Angiopoietin-1 (Ang-1) and Antiopoietin-2 (Ang2) are important for development of the endothelium, by regulating tyrosine phosphorylation of the membrane receptor Tie-2/Tek. Ang-1 binding to Tie-2/Tek causes phosphorylation of the receptor. Ang-2 competes for this binding, and thus blocks receptor phosphorylation. Ang-1 has potential fibrinogen-like domain at the carboxy terminus and coiled-coil regions in the amino terminus. Ang-1 is prominently expressed in the myocardium of atrium and ventricle, mesenchymal and smooth muscle cells surrounding most blood vessels, and lung. In the adult, ANG-1 is also expressed in the heart and liver. To our knowledge, this is the first time that an Ang antibody recognises a band above 55 kD. This antibody (and the ang-2 antibody, ab8452) give a band at 75 kD which resembles the original size, because these are soluble highly glycosylated proteins, which should run higher than the calculated molecular weight of 55 kD.

**Properties**

**Form**  
Liquid

**Storage instructions**  
Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.

**Storage buffer**  
pH: 7.20  
Preservative: 0.01% Sodium azide
Constituents: 0.42% Potassium phosphate, 0.87% Sodium chloride

Purity
Whole antiserum

Primary antibody notes
Angiopoietin-1 (Ang-1) and Angiopoietin-2 (Ang2) are important for development of the endothelium, by regulating tyrosine phosphorylation of the membrane receptor Tie-2/Tek. Ang-1 binding to Tie-2/Tek causes phosphorylation of the receptor. Ang-2 competes for this binding, and thus blocks receptor phosphorylation. Ang-1 has potential fibrinogen-like domain at the carboxy terminus and coiled-coil regions in the amino terminus. Ang-1 is prominently expressed in the myocardium of atrium and ventricle, mesenchymal and smooth muscle cells surrounding most blood vessels, and lung. In the adult, ANG-1 is also expressed in the heart and liver. To our knowledge, this is the first time that an Ang antibody recognises a band above 55 kD. This antibody (and the ang-2 antibody, ab8452) give a band at 75 kD which resembles the original size, because these are soluble highly glycosylated proteins, which should run higher than the calculated molecular weight of 55 kD.

Clonality
Polyclonal

Isotype
IgG

Applications
Our Abpromise guarantee covers the use of ab8451 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 at an assay dependent concentration.</td>
</tr>
<tr>
<td>WB</td>
<td>★★★★☆</td>
<td>1/500. Detects a band of approximately 57 kDa. Using this antiserum with cell supernatants may result in high background due to other components in the serum. This can be alleviated by immunoprecipitating the antibody:antigen complex before detection, or precipitation using soluble Tie2. These methods result in a clean, strong signal. Both Ang-1 and Ang-2 proteins have predicted MW of 57 kDa and appear on blots close to predicted MW. Additional bands may be seen at approx. 75 kDa which represent highly glycosylated forms of the protein.</td>
</tr>
<tr>
<td>IHC-Fr</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
</tbody>
</table>

Target

Function
Binds and activates TIE2 receptor by inducing its tyrosine phosphorylation. Implicated in endothelial developmental processes later and distinct from that of VEGF. Appears to play a crucial role in mediating reciprocal interactions between the endothelium and surrounding matrix and mesenchyme. Mediates blood vessel maturation/stability. It may play an important role in the heart early development.

Sequence similarities
Contains 1 fibrinogen C-terminal domain.

Post-translational modifications
Glycosylated.

Cellular localization
Secreted.

Images
Supernatants of mouse-angiopoietin-expressing endothelial cells.
Lane 1 - wt endothelial cell
Lane 2 - mouse Ang-1 (clone 1-8) expressing cells
Lane 3 - mouse Ang-1 (clone 1-15) expressing cells
Lane 4 - mouse Ang-2 (clone 2-9) expressing cells

Supernatants of mouse-angiopoietin-expressing endothelial cells.
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Lane 4 - mouse Ang-2 (clone 2-9) expressing cells

ab8451 was diluted 1:500 to detect Angiopoietin 1 in human lung tissue. Tissue was formalin fixed and paraffin embedded. No pre-treatment of sample was required. The image shows the localization of antibody as the precipitated red signal, with a hematoxylin purple nuclear counter stain.

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