## Overview

**Product name** Anti-VEGFA antibody  
**Description** Rabbit polyclonal to VEGFA  
**Host species** Rabbit  
**Specificity** New batches of this antibody are no longer guaranteed in ICC/IF, IHC-P or IHC-Fr as they have not passed our stringent batch testing criteria. Please contact customer support for any specific queries. We recommend ab52917 as an alternative for ICC/IF and IHC-P.

**Tested applications** Suitable for: WB, ELISA  
**Species reactivity** Reacts with: Mouse, Rat, Human  
**Immunogen** Synthetic peptide corresponding to Human VEGFA aa 50-150 conjugated to keyhole limpet haemocyanin.  
(Peptide available as ab46161)

**Positive control**  
Purchase matching WB positive control: [Recombinant Human VEGFA protein](ab46154)  
ab46154 gave a positive result in the following whole cell lysates: Recombinant Human VEGFA protein, Recombinant Mouse VEGFA protein, HCT116 whole cell lysate

**General notes**

**Properties**

<table>
<thead>
<tr>
<th>Form</th>
<th>Liquid</th>
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</thead>
<tbody>
<tr>
<td>Storage instructions</td>
<td>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.</td>
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</tbody>
</table>
| Storage buffer | pH: 7.40  
Preservative: 0.02% Sodium azide  
Constituent: PBS |

Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help.

**Purity** Immunogen affinity purified
Clonality: Polyclonal
Isotype: IgG

Function: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. Induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis and induces permeabilization of blood vessels. Binds to the FLT1/VEGFR1 and KDR/VEGFR2 receptors, heparan sulfate and heparin. NRP1/Neuropilin-1 binds isoforms VEGF-165 and VEGF-145. Isoform VEGF165B binds to KDR but does not activate downstream signaling pathways, does not activate angiogenesis and inhibits tumor growth.

Tissue specificity: Isoform VEGF189, isoform VEGF165 and isoform VEGF121 are widely expressed. Isoform VEGF206 and isoform VEGF145 are not widely expressed.

Involvement in disease: Defects in VEGFA are a cause of susceptibility to microvascular complications of diabetes type 1 (MVCD1) [MIM:603933]. These are pathological conditions that develop in numerous tissues and organs as a consequence of diabetes mellitus. They include diabetic retinopathy, diabetic nephropathy leading to end-stage renal disease, and diabetic neuropathy. Diabetic retinopathy remains the major cause of new-onset blindness among diabetic adults. It is characterized by vascular permeability and increased tissue ischemia and angiogenesis.

Sequence similarities: Belongs to the PDGF/VEGF growth factor family.

Cellular localization: Secreted. VEGF121 is acidic and freely secreted. VEGF165 is more basic, has heparin-binding properties and, although a significant proportion remains cell-associated, most is freely secreted. VEGF189 is very basic, it is cell-associated after secretion and is bound avidly by heparin and the extracellular matrix, although it may be released as a soluble form by heparin, heparinase or plasmin.

Applications
Our Abpromise guarantee covers the use of ab46154 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>
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<tbody>
<tr>
<td>WB</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use a concentration of 1 µg/ml. Detects a band of approximately 23 kDa (predicted molecular weight: 27 kDa). We recommend Goat Anti-Rabbit IgG H&amp;L (HRP) (ab97051) secondary antibody.</td>
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<tr>
<td>ELISA</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
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</tbody>
</table>

Target

Function: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. Induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis and induces permeabilization of blood vessels. Binds to the FLT1/VEGFR1 and KDR/VEGFR2 receptors, heparan sulfate and heparin. NRP1/Neuropilin-1 binds isoforms VEGF-165 and VEGF-145. Isoform VEGF165B binds to KDR but does not activate downstream signaling pathways, does not activate angiogenesis and inhibits tumor growth.

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Anti-VEGFA antibody (ab46154) at 1 µg/ml + HCT116 whole cell lysate at 20 µg

**Secondary**

Rabbit IgG secondary antibody at 1/10000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

**Predicted band size:** 27 kDa  
**Observed band size:** 23 kDa

*why is the actual band size different from the predicted?*

**Exposure time:** 2 minutes

This blot was produced using a 10% Bis-tris gel under the MES buffer system. The gel was run at 200V for 35 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using 5% Bovine Serum Albumin before being incubated with ab46154 overnight at 4°C. Antibody binding was detected using an anti-rabbit antibody conjugated to HRP, and visualised using ECL development solution.

Immunohistochemical analysis of adult proestrous mouse ovarian follicles staining CYP19/aromatase with ab35604, and VEGFA with ab46154. Staining of follicles at different stages using specific markers (upper panels) together with histological pictures using hematoxylin and eosin staining (lower panels).
Ab46154 was tested using indirect ELISA. The wells were coated with peptide (1 µg x mL\(^{-1}\) at 100 µL per well) overnight at 4°C, followed by a 1% fat-free milk blocking step for 1 hour at room temperature. The primary antibody (ab46154) was added at a range of dilutions (50 µL per well) for 1 hour at room temperature. Ab97080 (Goat Anti-Rabbit IgG H&L-HRP) was used as a secondary antibody at 1:50,000 dilution for 1 hour at room temperature and signal was developed with TMB substrate.

**All lanes**: Anti-VEGFA antibody (ab46154) at 1 µg/ml

**Lane 1**: Recombinant Human VEGFA protein (His tag)  
(ab204773)

**Lane 2**: Recombinant mouse VEGFA protein (Active) (ab185265)

Lysates/proteins at 0.1 µg per lane.

**Secondary**

**All lanes**: Rabbit IgG secondary antibody at 1/10000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

**Predicted band size**: 27 kDa

**Observed band size**: 23 kDa  
*why is the actual band size different from the predicted?*

**Exposure time**: 10 seconds

This blot was produced using a 10% Bis-tris gel under the MES buffer system. The gel was run at 200V for 35 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using 3% Milk before being incubated with ab46154 overnight at 4°C. Antibody binding was detected using an anti-rabbit antibody conjugated to HRP, and visualised using ECL development solution.

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*Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"*
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