

Datasheet: HCA003

Description:	HUMAN ANTI AKT1
Specificity:	AKT1
Other names:	PROTEIN KINASE B
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	2147
Isotype:	HuCAL Fab bivalent
Quantity:	0.1 mg

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
ELISA	▪			2ug/ml
Western Blotting	▪			2ug/ml

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

Target Species	Human
Species Cross Reactivity	Based on sequence similarity, is expected to react with:Rat, Mouse N.B. Antibody reactivity and working conditions may vary between species.
Product Form	A lyophilised bivalent human recombinant Fab selected from the HuCAL [®] GOLD phage display library. Expressed in <i>E. coli</i> and purified using NiNTA affinity chromatography. This Fab fragment is dimerized via a helix-turn-helix motif. The antibody is tagged with a myc-tag (EQKLISEEDL) and a his-tag (HHHHHH) at the C-terminus of the antibody heavy chain.
Reconstitution	Reconstitute with 100 µl of distilled water.
Preparation	Metal-chelate affinity chromatography.
Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	None present.
Approx. Protein Concentrations	Antibody concentration 1.0 mg/ml following reconstitution.

Immunogen	Human AKT1 (Val-106 - Ala-480) fusion protein. The antigen contains the complete kinase domain (amino acids 150 to 408) but not the N-terminal PH domain. Amino acid residues 106-480, MW 77.8 kDa.
External Database Links	<p>UniProt: P31749 Related reagents</p> <p>Entrez Gene: 207 AKT1 Related reagents</p>
Synonyms	PKB, RAC
Specificity	<p>Human anti Human AKT1 antibody, clone 2147 recognises AKT1, a cytoplasmic kinase which is expressed in the nucleus after activation by integrin-linked protein kinase 1 (ILK1). HCA003 does not bind to human AKT2 and AKT3 (81% and 82% identical to AKT1, respectively).</p> <p>Two serine/threonine kinases, designated AKT1 and AKT2 exhibit sequence homology with the protein kinase A and C families and are encoded by the c-AKT proto-oncogene. AKT1 and the related AKT2 are activated by platelet-derived growth factor (PDGF). The activation is rapid and specific, and it is abrogated by mutations in the Pleckstrin homology domain (PH) of AKT1. It was shown that the activation occurs through phosphatidylinositol 3-kinase. Binding of the PH domain to the phosphatidylinositol 3-kinase alpha (PI(3)K) results in its targeting to the plasma membrane. Additionally, the activation of AKT1 and AKT2 is inhibited by the PI kinase inhibitor wortmannin. Taken together, this data strongly suggests that the protein signals downstream of the PI kinases. In the developing nervous system AKT is a critical mediator of growth factor-induced neuronal survival. Survival factors can suppress apoptosis in a transcription-independent manner by activating the serine/threonine kinase AKT1, which then phosphorylates and inactivates components of the apoptotic machinery. Phosphorylation on Thr-308, Ser-473 and Tyr-474 is required for full activity. Ser-473 is dephosphorylated by PHLPP.</p>
Activity	Activity was tested by indirect ELISA: recombinant purified GST-AKT1 (5 µg/ml) plus unrelated control proteins were immobilized on a microtiter plate. Specific binding was monitored by first adding HCA003 (2 µg/ml), then adding a secondary antibody (goat anti-human F(ab') ₂ fragment specific, AP conjugate. 1:5000 diluted). A fluorescent signal was created by adding the AP substrate Attophos. The signal on the antigen is at least 5-fold above background, whereas the signal on the control antigens is less than 1.5-fold above background.
Purity	Purity was tested by SDS-PAGE and Coomassie-staining of a 2 µg sample.
Storage	<p>Prior to reconstitution store at +4°C.</p> <p>After reconstitution store at -20°C.</p> <p>Storage in frost-free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the antibody.</p>
Shelf Life	6 months from date of reconstitution.
Acknowledgements	<p>Sold under license of U.S. Patents 6753136, 7785859 and 8273688 and corresponding patents. This antibody was developed by Bio-Rad, Zeppelinstr. 4, 82178 Puchheim, Germany.</p> <p>Western blotting data kindly provided by ProQinase GmbH, Freiburg.</p>

Health And Safety Information	Material Safety Datasheet Documentation #10162 available at: https://www.bio-rad-antibodies.com/uploads/MSDS/10162.pdf
Licensed Use	For in vitro research purposes only, unless otherwise specified in writing by Bio-Rad.
Regulatory	For research purposes only
Technical Advice	Recommended protocols and further information about HuCAL recombinant antibody technology can be found in the HuCAL Antibodies Technical Manual

Related Products

Recommended Secondary Antibodies

Mouse Anti Synthetic Peptide HISTIDINE TAG (MCA5995...) [HRP](#)

Mouse Anti Human C-MYC (MCA2200...) [Purified](#)

Goat Anti Human IgG F(ab')₂ (0500-0099...) [HRP](#)

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