Datasheet for ABIN967736

anti-FAK antibody (AA 354-533)

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Overview

Quantity:	50 µg
Target:	FAK (PTK2)
Binding Specificity:	AA 354-533
Reactivity:	Human, Mouse, Rat, Chicken, Dog
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This FAK antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), Immunoprecipitation (IP), BioImaging (BI)

Product Details

Immunogen:	Chicken FAK aa. 354-533
Clone:	77-FAK
Isotype:	IgG1
Cross-Reactivity:	Human, Mouse (Murine), Rat (Rattus), Dog (Canine)
Characteristics:	1. Since applications vary, each investigator should titrate the reagent to obtain optimal results. 2. Please refer to us for technical protocols. 3. This antibody has been developed and certified for the bioimaging application. However, a routine bioimaging test is not performed on every lot. Researchers are encouraged to titrate the reagent for optimal performance. 4. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive

Product Details

	deposits in plumbing. 5. Source of all serum proteins is from USDA inspected abattoirs located in the United States. 6. Triton is a trademark of the Dow Chemical Company.
Purification:	The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Target Details

Target:	FAK (PTK2)
Alternative Name:	FAK (PTK2 Products)
Background:	Focal Adhesion Kinase (FAK) is a cytoplasmic tyrosine kinase that colocalizes with integrins in focal adhesions. This cellular localization is directed by a 125 amino acid sequence at the C-terminus called the Focal Adhesion Targeting sequence (FAT). The binding of extracellular matrix ligands to integrins triggers autophosphorylation and activation of FAK. This creates binding sites for SH2 domains of intracellular signaling molecules such as src, PI3 kinase, and Grb2. FAK's ability to bind numerous structural and signaling proteins via a variety of interactions has led to substantial speculation about its function. Although FAK's precise role has not been elucidated, proposed possibilities include regulating cell motility, cell growth, cytoskeletal organization, and adhesion-dependent cell survival. Synonyms: Focal Adhesion Kinase
Molecular Weight:	116-125 kDa
Pathways:	Response to Growth Hormone Stimulus, CXCR4-mediated Signaling Events, Smooth Muscle Cell Migration, Signaling of Hepatocyte Growth Factor Receptor, VEGF Signaling

Application Details

Application Notes:	Bioimaging 1. Seed the cells in appropriate culture medium at ~10,000 cells per well in an 96-well Imaging Plate and culture overnight. 2. Remove the culture medium from the wells, and fix the cells by adding 100 myl of Fixation Buffer to each well. Incubate for 10 minutes at room temperature (RT). 3. Remove the fixative from the wells, and permeabilize the cells using either 90% methanol, or Triton™ X-100: a. Add 100 myl of -20°C 90% methanol to each well and incubate for 5 minutes at RT. OR b. Add 100 myl of 0.1% Triton™ X-100 to each well and incubate for 5 minutes at RT. 4. Remove the permeabilization buffer, and wash the wells twice with 100 myl of 1× PBS.

Application Details

	5. Remove the PBS, and block the cells by adding 100 myl of to each well. Incubate for 30 minutes at RT. 6. Remove the blocking buffer and add 50 myl of the optimally titrated primary antibody (diluted in Stain Buffer) to each well, and incubate for 1 hour at RT. 7. Remove the primary antibody, and wash the wells three times with 100 myl of 1× PBS. 8. Remove the PBS, and add the second step reagent at its optimally titrated concentration in 50 myl to each well, and incubate in the dark for 1 hour at RT. 9. Remove the second step reagent, and wash the wells three times with 100 myl of 1× PBS. 10. Remove the PBS, and counter-stain the nuclei by adding 200 myl per well of 2 myg/ml Hoechst 33342 in 1× PBS to each well at least 15 minutes before imaging. 11. View and analyze the cells on an appropriate imaging instrument.
Comment:	Related Products: ABIN967389, ABIN968533
Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	250 µg/mL
Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09 % sodium azide.
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C
Storage Comment:	Store undiluted at -20°C.

Publications

Product cited in:	Yi, Zhou, Huber, Qu, Wang, Gerdes, Li: "Nuclear compartmentalization of FAK and FRNK in cardiac myocytes." in: **American journal of physiology. Heart and circulatory physiology**, Vol. 290, Issue 6, pp. H2509-15, (2006) (PubMed). Jones, Stewart: "Nuclear import of N-terminal FAK by activation of the FcepsilonRI receptor in RBL-2H3 cells." in: **Biochemical and biophysical research communications**, Vol. 314, Issue 1, pp. 39-45, (2004) (PubMed).

Publications

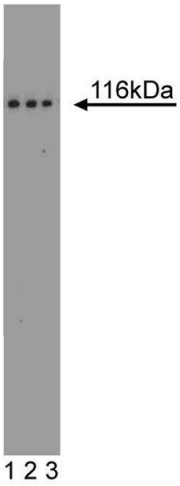
Zeng, Si, Yu, Le, Ng, Teng, Ryan, Wang, Ponniah, Pallen: "PTP alpha regulates integrin-stimulated FAK autophosphorylation and cytoskeletal rearrangement in cell spreading and migration." in: **The Journal of cell biology**, Vol. 160, Issue 1, pp. 137-46, (2003) (PubMed).

Kim, Feldman: "Insulin-like growth factor I prevents mannitol-induced degradation of focal adhesion kinase and Akt." in: **The Journal of biological chemistry**, Vol. 277, Issue 30, pp. 27393-400, (2002) (PubMed).

Kovacic-Milivojević, Roediger, Almeida, Damsky, Gardner, Ilić: "Focal adhesion kinase and p130Cas mediate both sarcomeric organization and activation of genes associated with cardiac myocyte hypertrophy." in: **Molecular biology of the cell**, Vol. 12, Issue 8, pp. 2290-307, (2001) (PubMed).

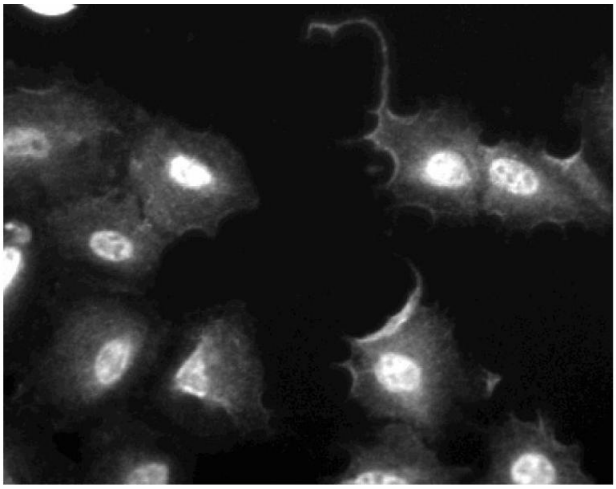
There are more publications referencing this product on: Product page

Images



Western Blotting

Image 1. Western blot analysis of FAK on a A431 cell lysate (Human epithelial carcinoma, ATCC CRL-1555). Lane 1: 2 µg/ml, lane 2: 1 µg/ml, lane 3: 0.5 µg/ml of the mouse anti-FAK antibody.



Immunofluorescence

Image 2. Immunofluorescent staining of U2OS (ATCC HTB-96) cells. Cells were seeded in a 96-well imaging plate at ~ 10,000 cells per well. After overnight incubation, cells were stained using the alcohol perm protocol and the anti-FAK antibody. The second step reagent was FITC goat anti-mouse Ig. Images were taken on a BD Pathway™ 855 bioimaging system using a 20x objective. This antibody also stained A549 (ATCC CCL-185) and HeLa (ATCC CCL-2) cells and worked with both the Triton™ X-100 and alcohol perm protocols.