Human/Mouse/Rat FAK Antibody

Antigen Affinity-purified Polyclonal Sheep IgG

Catalog Number: AF4467

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Detects human, mouse and rat FAK.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human FAK Asp213-Thr412 Accession # Q05397
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

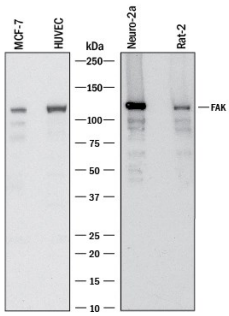
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below
Knockout Validated	FAK is specifically detected in HEK293T human embryonic kidney parental cell line but is not detectable in FAK knockout HEK293T cell line.	

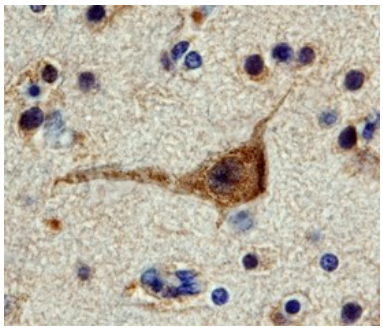
DATA

Western Blot



Detection of Human, Mouse, and Rat FAK by Western Blot. Western blot shows lysates of MCF-7 human breast cancer cell line, HUVEC human umbilical vein endothelial cells, Neuro-2A mouse neuroblastoma cell line, and Rat-2 rat embryonic fibroblast cell line. PVDF membrane was probed with 1 µg/mL of Sheep Anti-Human/Mouse/Rat FAK Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4467) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for FAK at approximately 125 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

Immunohistochemistry



FAK in Human Brain. FAK was detected in immersion fixed paraffin-embedded sections of human brain (hippocampus) using 3 µg/mL Human/Mouse/Rat FAK Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4467) overnight at 4 °C. Tissue was stained with the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # Catalog # CTS019) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

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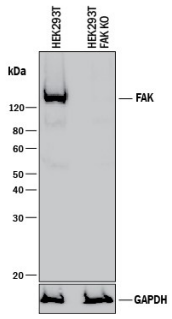
Human/Mouse/Rat FAK Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF4467

Knockout Validated



Western Blot Shows Human FAK Specificity by Using Knockout Cell Line. Western blot shows lysates of HEK293T human embryonic kidney parental cell line and FAK knockout HEK293T cell line (KO). PVDF membrane was probed with 1 µg/mL of Sheep Anti-Human/Mouse/Rat FAK Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4467) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # Catalog # HAF016). A specific band was detected for FAK at approximately 135 kDa (as indicated) in the parental HEK293T cell line, but is not detectable in knockout HEK293T cell line. GAPDH (Catalog # Catalog # AF5718) is shown as a loading control. This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Focal adhesion kinase 1 (FAK) is a ubiquitously expressed non-receptor protein tyrosine kinase that is concentrated in the focal adhesions that form between cells growing in the presence of extracellular matrix constituents. This cellular localization is directed by a "Focal Adhesion Targeting" (FAT) sequence, a 125 amino acid sequence at the C-terminus. FAK plays an important role in migration, cell spreading, differentiation, cytoskeleton protein phosphorylation, apoptosis and acceleration of the G1 to S phase transition of the cell cycle. It associates with several different signaling proteins such as Src-family PTKs, p130Cas, Shc, Grb2, PI 3-kinase, and paxillin. This enables FAK to function within a network of integrin-stimulated signaling pathways leading to the activation of targets such as the ERK and JNK/mitogen-activated protein kinase pathways. FAK is also linked to oncogenes at biochemical and functional levels. Increased expression and/or activity of FAK in various tumors has been correlated with enhanced migration and invasiveness of human tumor cells in addition to promoting increased cell proliferation.

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