

Recombinant FAK (409-698) protein

Catalog No: 81144, 81844

Lot No: 10418001

Expressed In: Baculovirus

Quantity: 20, 1000 µg

Concentration: 0.3 µg/µl

Source: Human

Buffer Contents: Recombinant FAK (409-698) protein is supplied in 25 mM HEPES-NaOH pH 7.5, 300 mM NaCl, 10% glycerol, 0.04% Triton X-100, and 0.5 mM TCEP.

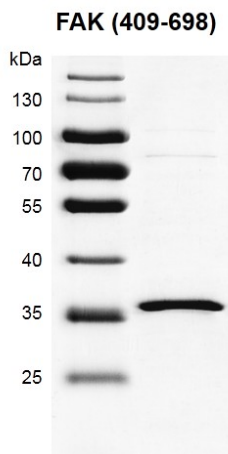
Background: FAK (Focal Adhesion Kinase 1), also known as PTK2 (Protein Tyrosine Kinase 2), is a non-receptor protein-tyrosine kinase that plays an essential role in regulating cell migration, adhesion, spreading, reorganization of the actin cytoskeleton, formation and disassembly of focal adhesions and cell protrusions, cell cycle progression, cell proliferation and apoptosis. It is required for early embryonic development and placenta development, embryonic angiogenesis, normal cardiomyocyte migration and proliferation and normal heart development. FAK regulates axon growth and neuronal cell migration, axon branching and synapse formation, and it is required for normal development of the nervous system. It also plays a role in osteogenesis and differentiation of osteoblasts. FAK can function in integrin signal transduction, but also in signaling downstream of numerous growth factor receptors, G-protein coupled receptors (GPCR), EPHA2, netrin receptors and LDL receptors. It can form multisubunit signaling complexes with SRC and SRC family members upon activation; this leads to the phosphorylation of additional tyrosine residues, creating binding sites for scaffold proteins, effectors and substrates. FAK also can regulate numerous signaling pathways, promote activation of phosphatidylinositol 3-kinase and the AKT1 signaling cascade, MAPK1/ERK2, MAPK3/ERK1 and the MAP kinase signaling cascade. It can recruit the ubiquitin ligase MDM2 to p53/TP53 in the nucleus, and thereby regulates p53/TP53 activity, p53/TP53 ubiquitination and proteasomal degradation.

Protein Details: Recombinant FAK (409-698) protein that includes amino acids 409-698 of human FAK protein (accession number NP_722560.1) was expressed in a baculovirus expression system with an N-terminal FLAG tag. The molecular weight of the protein is 34.8 kDa.

Application Notes: This protein is suitable for use in binding assays, inhibitor screening, and selectivity profiling.

Kinase Activity Assay Conditions: 1 µM TK substrate was incubated with different concentrations of FAK (409-698) protein in a 10 µl reaction system containing 1X Enzymatic Buffer, 5 mM MgCl₂, 1 mM DTT, 5 nM SEB and 100 µM ATP for 1 hour. The 10 µl detection reagents containing TK antibody and SA-XL665, each of which was 1:100 diluted with 1X Detection Buffer were added and incubated with the reactions for 30 min. All the operations and reactions were performed at room temperature, and HTRF KinEASE TK assay was used to detect the enzymatic activity.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is for research use only and is not for use in diagnostic procedures. This product is guaranteed for 6 months from date of arrival.

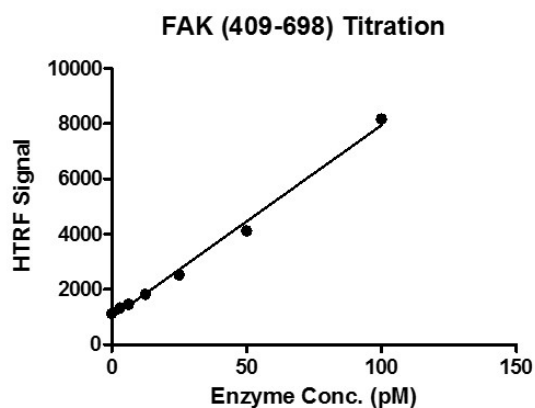


Recombinant FAK (409-698) protein gel

10% SDS-PAGE Coomassie staining

MW: 34.8 kDa

Purity: >90%



HTRF assay for FAK (409-698) activity

1 μ M TK substrate was incubated with different concentrations of FAK protein and 100 μ M ATP in the reaction buffer for 1 hour. The detection reagents were added and incubated with the reactions for 1 hr. TK antibody was used to detect the products. All the operations and reactions were performed at room temperature, and HTRF KinEASE TK assay was used to detect the enzymatic activity.