Datasheet for ABIN3092553

# FAK Protein (AA 2-1052) (His tag)

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## 1 Image

## Overview

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|---|---|
| Quantity: | 1 mg |
| Target: | FAK (PTK2) |
| Protein Characteristics: | AA 2-1052 |
| Origin: | Human |
| Source: | Insect Cells |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This FAK protein is labelled with His tag. |
| Application: | Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys) |

## Product Details

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| Sequence: | AAAYLDPNLN HTPNSSTKTH LGTGMERSPG AMERVLKVFH YFESNSEPTT WASIIRHGDA TDVRGIIQKI VDSHKVKHVA CYGFRLSHLR SEEVHWLHVD MGVSSVREKY ELAHPPEEWK YELRIRYLPK GFLNQFTEDK PTLNFFYQQV KSDYMLEIAD QVDQEIALKL GCLEIRRSYW EMRGNALEKK SNYEVLEKDV GLKRFFPKSL LDSVKAKTLR KLIQQTFRQF ANLNREESIL KFFEILSPVY RFDKECFKCA LGSSWIISVE LAIGPEEGIS YLTDKGCNPT HLADFTQVQT IQYSNSEDKD RKGMLQLKIA GAPEPLTVTA PSLTIAENMA DLIDGYCRLV NGTSQSFIIR PQKEGERALP SIPKLANSEK QGMRTHAVSV SETDDYAEII DEEDTYTMPS TRDYEIQRER IELGRCIGEG QFGDVHQGIY MSPENPALAV AIKTCKNCTS DSVREKFLQE ALTMRQFDHP HIVKLIGVIT ENPVWIIMEL CTLGELRSFL QVRKYSLDLA SLILYAYQLS TALAYLESKR FVHRDIAARN VLVSSNDCVK LGDFGLSRYM EDSTYYKASK GKLPIKWMAP ESINFRRFTS ASDVWMFGVC MWEILMHGVK PFQGVKNNDV IGRIENGERL PMPPNCPPTL YSLMTKCWAY DPSRRPRFTE LKAQLSTILE EEKAQQEERM RMESRRQATV SWDSGGSDEA PPKPSRPGYP |

SPRSSEGFYP SPQHMVQTNH YQVSGYPGSH GITAMAGSIY PGQASLLDQT DSWNHRPQEI AMWQPNVEDS TVLDLRGIGQ VLPTHLMEER LIRQQQEMEE DQRWLEKEER FLKPDVRLSR GSIDREDGSL QGPIGNQHIY QPVGKPDPAA PPKKPPRPGA PGHLGSLASL SSPADSYNEG VKLQPQEISP PPTANLDRSN DKVYENVTGL VKAVIEMSSK IQPAPPEEYV PMVKEVGLAL RTLLATVDET IPLLPASTHR EIEMAQKLLN SDLGELINKM KLAQQYVMTS LQQEYKKQML TAAHALAVDA KNLLDVIDQA RLKMLGQTRP H

**Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.**

Characteristics:

- Made in Germany - from design to production - by highly experienced protein experts.
- Human PTK2 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a made to order protein and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receival of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

The concentration of our recombinant proteins is measured using the absorbance at 280nm. The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.

The concentration of the protein is calculated using its specific absorption coefficient. We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

Purification:

Two step purification of proteins expressed in baculovirus infected SF9 insect cells:

1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. Eluate fractions are analyzed by SDS-PAGE.
2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.

## Product Details

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| Purity: | >95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot. |
| Sterility: | 0.22 µm filtered |
| Endotoxin Level: | Protein is endotoxin free. |
| Grade: | Crystallography grade |

## Target Details

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| Target: | FAK (PTK2) |
| Alternative Name: | PTK2 (PTK2 Products) |
| Background: | 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. Required for early embryonic development and placenta development. Required for embryonic angiogenesis, normal cardiomyocyte migration and proliferation, and normal heart development. Regulates axon growth and neuronal cell migration, axon branching and synapse formation, required for normal development of the nervous system. Plays a role in osteogenesis and differentiation of osteoblasts. Functions 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. Forms 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. Regulates numerous signaling pathways. Promotes activation of phosphatidylinositol 3-kinase and the AKT1 signaling cascade. Promotes activation of MAPK1/ERK2, MAPK3/ERK1 and the MAP kinase signaling cascade. Promotes localized and transient activation of guanine nucleotide exchange factors (GEFs) and GTPase-activating proteins (GAPs), and thereby modulates the activity of Rho family GTPases. Signaling via CAS family members mediates activation of RAC1. Recruits the ubiquitin ligase MDM2 to P53/TP53 in the nucleus, and thereby regulates P53/TP53 activity, P53/TP53 ubiquitination and proteasomal degradation. Phosphorylates SRC, this increases SRC kinase activity. Phosphorylates ACTN1, ARHGEF7, GRB7, RET and WASL. Promotes phosphorylation of PXN and STAT1, most likely PXN and STAT1 are phosphorylated by a SRC family kinase that is recruited to autophosphorylated PTK2/FAK1, rather than by PTK2/FAK1 itself. Promotes phosphorylation of BCAR1, GIT2 and SHC1, this requires both SRC and PTK2/FAK1. Promotes phosphorylation of BMX and PIK3R1. Isoform 6 (FRNK) does not contain a kinase domain and inhibits PTK2/FAK1 phosphorylation |

## Target Details

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| | and signaling. Its enhanced expression can attenuate the nuclear accumulation of LPXN and limit its ability to enhance serum response factor (SRF)-dependent gene transcription. {ECO:0000269\|PubMed:10655584, ECO:0000269\|PubMed:11331870, ECO:0000269\|PubMed:11980671, ECO:0000269\|PubMed:15166238, ECO:0000269\|PubMed:15561106, ECO:0000269\|PubMed:15895076, ECO:0000269\|PubMed:16919435, ECO:0000269\|PubMed:16927379, ECO:0000269\|PubMed:17395594, ECO:0000269\|PubMed:17431114, ECO:0000269\|PubMed:17968709, ECO:0000269\|PubMed:18006843, ECO:0000269\|PubMed:18206965, ECO:0000269\|PubMed:18256281, ECO:0000269\|PubMed:18292575, ECO:0000269\|PubMed:18497331, ECO:0000269\|PubMed:18677107, ECO:0000269\|PubMed:19138410, ECO:0000269\|PubMed:19147981, ECO:0000269\|PubMed:19224453, ECO:0000269\|PubMed:20332118, ECO:0000269\|PubMed:20495381, ECO:0000269\|PubMed:21454698}. |
| Molecular Weight: | 120.1 kDa Including tag. |
| UniProt: | Q05397 |
| Pathways: | Response to Growth Hormone Stimulus, CXCR4-mediated Signaling Events, Smooth Muscle Cell Migration, Signaling of Hepatocyte Growth Factor Receptor, VEGF Signaling |

## Application Details

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| Application Notes: | In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a gurantee though. |
| Comment: | In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest. |
| Restrictions: | For Research Use only |

## Handling

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| Format: | Liquid |
| Buffer: | 100 mM NaCL, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer. |

## Handling

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| Handling Advice: | Avoid repeated freeze-thaw cycles. |
| Storage: | -80 °C |
| Storage Comment: | Store at -80°C. |
| Expiry Date: | Unlimited (if stored properly) |

## Images


**Image 1.** „Crystallography Grade“ protein due to multi-step, protein-specific purification process