## BACKGROUND

The Fujinami poultry sarcoma/feline sarcoma (*fps/fes*) proto-oncogene encodes a structurally unique nonreceptor protein tyrosine kinase (PTK) called Fps/Fes kinase. FER kinase (94 kDa) is the only other known member of this distinct subfamily in mammalian cells. In contrast to the tissue-specific expression pattern of Fps/Fes kinase, FER kinase is a ubiquitously expressed nonreceptor PTK-associated with cell-cell actin-based adherens junction (AJ) - and intermediate filament-basedl desmosomes. Fps/Fes and FER kinases have been implicated in the regulation of cell-cell AJs and cell-matrix focal adhesion interactions in multiple epithelia, and they serve similar and even redundant biological function based on recently completed genetic analysis in mice.[1] There is a truncated FER, FerT kinase (51 kDa) in testis. The FCH (Fps/Fes/FER/ClP4 homology) and the three coiled-coil (CC) domains from the N-terminus of FER kinase are missing from Fer*T* but FerT has a unique N-terminal sequence of 44 amino acid residues.[2]

FER kinase is a cytoplasmic PTK found at the site of AJs and was shown to associate with the phosphorylated form of $p120^{ctn}$, which in turn interacts with the cadherin/catenin complex. As such, FER kinase may be an important PTK that mediates signals at the site of AJs to the nucleus in much the same way as $p120^{ctn}$ and beta-catenin. FER kinase is an important regulator of cell adhesion function. For instance, overexpression of FER kinase in embryonic fibroblasts can reduce the level of alpha-catenin and beta-catenin associating with E-cadherin, causing a loss of cell adhesion function. Other studies have shown that FER kinase can induce phosphorylation of $p120^{ctn}$ and beta-catenin, dissociating them from the cadherin/catenin complex, causing a loss of cell adhesion function. Furthermore, FER kinase mediates cross-talk between cadherin and beta1-integrin.[3]

**References**:
1. Greer, P. et al: Nature Rev. Mol. Cell. Biol. 3:278-89, 2002
2. Hazan, B. et al: Cell. Grow. Diff.4:443-9, 1993
3. Chen, Y-M. et al: Biol. Reproduct. 69:656-72, 2003

## TECHNICAL INFORMATION

**Source:**
FER antibody is a mouse monoclonal antibody raised against purified recombinant human FER fragments expressed in *E. coli*.

**Specificity and Sensitivity:**
This antibody detects endogenous FER proteins without cross-reactivity with other family members.

**Storage Buffer**: PBS and 30% glycerol

**Storage**:
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

## APPLICATIONS

| Application: | *Dilution: |
|---|---|
| **WB** | 1:1000 |
| **IP** | 1:50 |
| **IHC** | 1:200 |
| **ICC** | 1:200 |
| **FACS** | 1:50 |

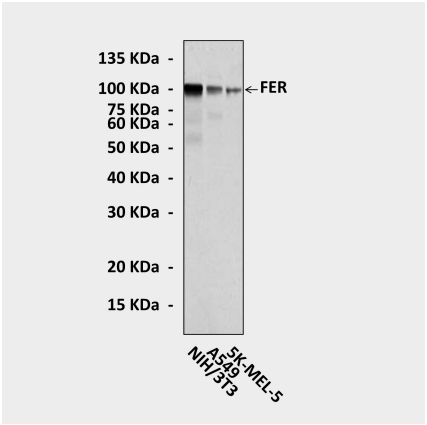
*****Optimal dilutions must be determined by end user.*

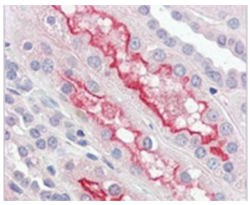
# FER Antibody

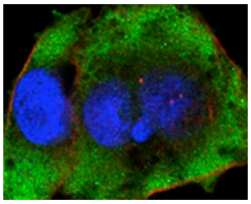
Cat. No. CP10099

| | |
|---|---|
| **Applications:** | **WB, IP, IHC, ICC, FACS** |
| **Detected MW:** | **94 kDa** |
| **Species & Reactivity:** | **Human, Mouse, Rat** |
| **Isotype:** | **Mouse IgG1** |

## QUALITY CONTROL DATA





**Top:** Western Blot detection of FER proteins in various cell lysates using FER antibody. **Middle:** This antibody stains paraffin-embedded human kidney tissue in immunohistochemical analysis. **Bottom:** It also stains HeLa cells in confocal immunofluorescent testing (FER antibody: Green; Actin filament: Red, DAQR5 DNA dye: Blue).