



# Recombinant Protein Technical Manual

**Recombinant Human Lck Kinase Protein (GST Tag)(Active)**  
RPES3101

## Product Data:

**Product SKU:** RPES3101

**Size:** 20µg

**Species:** Human

**Expression host:** Baculovirus-Insect Cells

**Uniprot:** NP\_001036236.1

## Protein Information:

**Molecular Mass:** 84.4 kDa

**AP Molecular Mass:** 80 kDa

**Tag:** N-GST

**Bio-activity:** 1. The specific activity was determined to be 70 nmol/min/mg using Poly(Glu,Tyr) 4:1 as substrate. 2. Measured by its ability to bind recombinant human CD3E in a functional ELISA.

**Purity:** > 90 % as determined by reducing SDS-PAGE.

**Endotoxin:** < 1.0 EU per µg as determined by the LAL method.

**Storage:** Store at < -20°C, stable for 6 months. Please minimize freeze-thaw cycles.

**Shipping:** This product is provided as liquid. It is shipped at frozen temperature with blue ice/gel packs. Upon receipt, store it immediately at < -20°C.

**Formulation:** Supplied as sterile 50mM Tris, 100mM NaCl, pH 8.0, 0.5mM GSH, 0.1mM EGTA, 0.1mM EDTA, 0.5mM PMSF, 10% glycerol

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:** Functional ELISA

**Synonyms:** IMD22;LSK;p56lck;pp58lck;YT16

## Immunogen Information:

**Sequence:** Met 1-Pro 509

## Background:

Protein kinases are critically involved in signaling pathways that regulate cell growth, differentiation, activation, and survival. Initially identified as a T-cell specific member of the Src family of protein tyrosine kinases, Lck has become the object of intensive investigations which have revealed a key role for this kinase in the central processes controlling T-cell development, activation, proliferation and survival. Lck is expressed specifically in lymphoid cells. It contains one protein kinase domain, one SH2 domain, and one SH3 domain. It is associated with a variety of cell surface receptors and is critical for signal transduction from the T-cell antigen receptor (TCR). Consequently, Lck is targeted by regulatory proteins of T-lymphotropic viruses, especially by the Herpesvirus saimiri (HVS) tyrosine kinase interacting protein (Tip). This oncoprotein physically interacts with Lck in HVS transformed T cells and has an impact on its catalytic activity. Together with the identification of defects in the regulation of Lck expression or activity in T-cell leukemias, suggests that dysregulation of Lck might play a role in neoplastic transformation. However, under certain conditions Lck is also involved in the induction of apoptosis. This chemosensitizing effect of Lck is independent of T-cell receptor signaling and does not require the kinase activity of Lck. The findings demonstrate that Lck might be part of two independent signaling pathways leading to either cell proliferation or apoptosis.