Anti-Phospho LCK (pSer^{158})
Developed in Rabbit, Affinity Isolated Antibody

Product Number L 2917

**Product Description**
Anti-Phospho Lck (pSer^{158}) is developed in rabbit using a synthetic phosphorylated peptide derived from the region of Lck that is phosphorylated on serine 158 as immunogen. The antibody is preadsorbed to remove any reactivity towards a non-phosphorylated Lck. The final product is generated by affinity chromatography using an Lck-derived peptide that is phosphorylated at serine 158. Anti-Phospho Lck (pSer^{158}) specifically recognizes human Lck (pSer 158). Mouse (100% homologous) has not been tested. It has been used in immunoblotting applications.

Lck protein, also known as T cell-specific protein-tyrosine kinase, p56Lck or p56Lck, a member of the Src family of non-receptor tyrosine protein kinases, is a 56 kDa protein expressed predominantly in T cells. The T cell antigen receptor (TCR) plays a crucial role in thymocyte differentiation and T cell activation. After antigen binding to the TCR, and with engagement of other co-receptors and their associated ligands (such as CD4, major histocompatibility complex class II, CD28, B7, CD8, and MHC I), signal transduction cascades are activated. The earliest measurable biochemical event is the activation of protein-tyrosine kinases, resulting in the phosphorylation of multiple cellular substrates. At least three protein-tyrosine kinases are known to be involved in TCR signaling at the level of the receptor, including p59Fyn, p56Lck, and ZAP70.\(^1\)\(^,\)\(^2\) STAT5 transcription factor becomes immediately and transiently phosphorylated on tyrosine 694 in response to TCR stimulation. Studies using a Lck-deficient T cell line confirmed the role of Lck in TCR stimulated STAT5 activation.\(^3\)

The activity of Lck is known to be regulated by phosphorylation of two conserved tyrosine residues, Tyrosine 505 (equivalent to Tyr-529 in c-Src) and Tyrosine 394 (equivalent to Tyr-418 in c-Src). CD45 regulates Lck kinase activity in Jurkat cells and that Lck kinase activity is required for integrin-mediated Shc phosphorylation. Integrin clustering leads to serine phosphorylation of Lck, and this modification is protein kinase C (PKC) dependent. In addition, efficient phosphorylation of Shc in response to integrin clustering in T cells also requires PKC activity. The effects of phosphorylation at Serine 158 are still under investigation.\(^4\)

**Reagent**
Anti-Phospho Lck (pSer^{158}) is supplied as a solution in phosphate buffer, pH 7.4, containing 1 mg/ml BSA (IgG and protease free) and 0.05% sodium azide.

**Precautions and Disclaimer**
Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

**Storage/Stability**
Store at −70 °C. For extended storage, upon initial thawing, freeze in working aliquots. Avoid repeated freezing and thawing to prevent denaturation of the antibody. Do not store in frost-free freezers. Working dilution samples should be discarded if not used within 12 hours. The antibody is stable for at least 6 months when stored appropriately.

**Product Profile**
A recommended working concentration of 0.1 to 1.0 µg/ml is determined by immunoblotting using a full length recombinant human Lck protein.

**Note:** In order to obtain best results in different techniques and preparations, we recommend determining optimal working concentration by titration test.

**References**


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