



Signaling of the TCR complex

- 1: TCR binding activates LCK (bound to CD4/CD8) that phosphorylates the ITAMs in CD3 ζ
- 2: these ITAMs form a docking site for the SH2 domains of ZAP70
- 3: ZAP70 is phosphorylated and activated by LCK
- 4: The activated ZAP70 then phosphorylates tyrosine residues in LAT
- 5: LAT then recruits proteins which includes the GEF Vav; the adaptors GRB2, GRAP2, and SLP76; and the p85 regulatory subunit bound to PI3-kinase (PIK3CG).
- 6: SLP76 and LAT together bind PLC γ 1 which becomes phosphorylated and activated by yet another protein kinase ITK (not shown) generating diacylglycerol (DAG) and IP3
- 7: IP3 induces Ca influx and triggers NFAT signaling while DAG triggers NF κ B and MAPK signalling