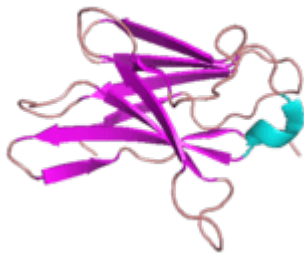
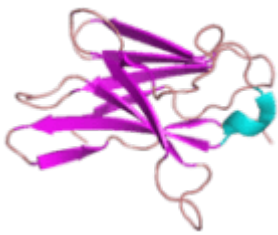


Protein kinase D2 amplifies T cell receptor–stimulated signaling in naïve CD8+ T cells



Protein kinase D2 (PKD2) is activated in T cells when a peptide antigen binds to and stimulates the T cell receptor (TCR). This study featured in this weeks journal of Science quantified the activation of PKD2 at the single-cell level and found that low concentrations of antigen activated PKD2 in a small proportion of T cells. While increased amounts of peptide antigen yielded a greater proportion of T cells exhibiting maximal PKD2 activation. Thus PKD2 is thought to act as a sensitive digital amplifier of TCR engagement, enabling CD8+ T cells to match the production of inflammatory cytokines to the quality and quantity of TCR ligands.

[Navarro, M. et al. 2014. Protein kinase D2 is a digital amplifier of T cell receptor–stimulated diacylglycerol signaling in naïve CD8+ T cells. *Science Signalling*.](#)