Product Data Sheet

OL9

Cat. No.: HY-P0287 CAS No.: 159646-83-0 Molecular Formula: $C_{52}H_{74}N_{10}O_{14}$ Molecular Weight: 1063.2

Sequence: Gln-Leu-Ser-Pro-Phe-Pro-Phe-Asp-Leu

Sequence Shortening: QLSPFPFDL Others Target: Others Pathway:

Storage: Sealed storage, away from moisture

> Powder -80°C 2 years -20°C 1 year

BIOLOGICAL ACTIVITY

Description	QL9 (QLSPFPFDL) is a high-affinity alloantigen for the 2C T cell receptor (TCR).
IC ₅₀ & Target	$TCR^{[1]}$
In Vitro	Mouse T cell clone 2C recognizes two different major histocompatibility (MHC) ligands, the self MHC K ^b and the allogeneic MHC L ^d . Two distinct peptides, SIY (SIYRYYGL) and QL9 (QLSPFPFDL), act as strong and specific agonists when bind to K ^b and L ^d , respectively. QL9 binding to MHC L ^d is influenced by the majority of peptide side chains, distributed across the entire length of the peptide. Findings with both systems, but QL9-L ^d in particular, suggest that many single-residue substitutions, introduced into peptides to improve their binding to MHC and thus their vaccine potential, could impair T cell reactivity due to their dual impact on TCR binding. T cell activation assays are performed to measure effects of peptide SIY and QL9 residues on T cell function ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

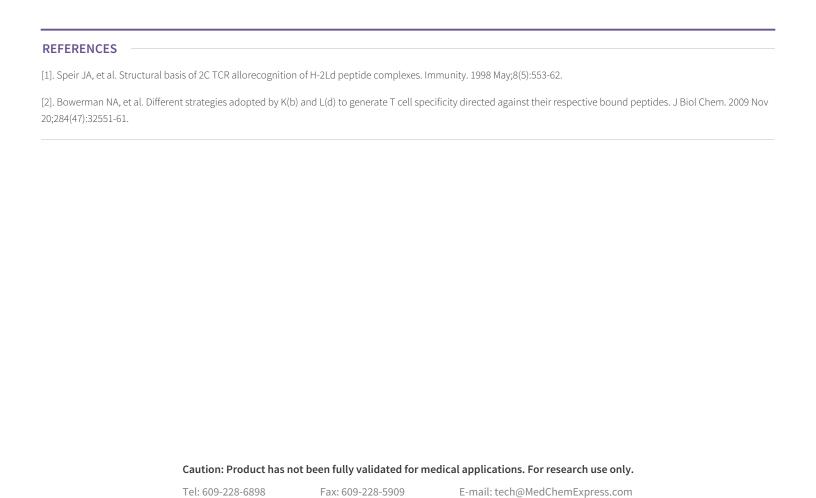
Cell Assay [2]

Wild type 2C and high affinity 2C T cell transfectants m67 and m6 are incubated with K^b- or L^d-positive cells and various concentrations of peptide SIY and QL9 alanine variants. T cell activation is measured by assaying for levels of IL-2 release. Briefly, T cell transfectants (7.5×10⁴) are incubated with T2-K^b (7.5×10⁴) or T2-L^d (7.5×10⁴) along with various concentrations of peptide for 20-24 h at 37 °C and 5% CO₂. Supernatant is harvested, and levels of IL-2 are measured in an enzyme-linked immunosorbent assay type format. Results are plotted as percentage of maximal IL-2 release=((A₄₅₀ (sample)-A₄₅₀(no peptide) $)/(\text{Max}\,A_{450(\text{sample})}-A_{450(\text{no peptide})}))\times 100; signal\ obtained\ from\ no\ peptide\ is\ similar\ to\ that\ obtained\ for\ the\ null\ peptides\ obtained\ from\ no\ peptide\ is\ pertial.$ MCMV or OVA. Binding curves are generated in GraphPad Prism by plotting the percentage of maximal IL-2 release against peptide concentration. The concentrations of peptide yielding 50% maximal IL-2 release (SD₅₀) are calculated using nonlinear regression (sigmoidal fitting; GraphPad Prism) of the activation curves^[2].

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^{*} In solvent: -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



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