

Data Sheet

Product Name:	OVA Peptide (323-339)	
Cat. No.:	CS-7035	
Molecular Formula:	C74H120N26O25	
Molecular Weight:	1773.91	
Target:	Others	ISQAVHAAHAEINEAGR
Pathway:	Others	
Solubility:	H2O : ≥ 50 mg/mL (28.19 mM)	

BIOLOGICAL ACTIVITY:

OVA Peptide (323-339) represents a T and B cell epitope of Ovalbumin (Ova), which is important in the generation and development of immediate hypersensitivity responses in BALB/c mice. **In Vitro:** When pulsed with 0.01 μ M of OVA Peptide (323-339), M2-expressing B cells lead to an increase in the number of T_H cells mobilizing calcium, compared to M2Y-expressing B cells. To assess if M2-expressing B cells are also able to promote stronger individual responses, we quantified the 405/530 ratio MFI of responding T_H cells^[1]. **In Vivo:** OVA Peptide (323-339) represents a T and B cell epitope of OVA, which is important in the generation and development of immediate hypersensitivity responses in BALB/c mice. Daily aerosolization of OVA Peptide (323-339) for 20 minutes over a period of 10 days has been as effective in the stimulation of a serum anti-OVA IgE antibody response as sensitization to native OVA by the same route. After sensitization to native OVA, the majority of the IgE anti-OVA response is directed against OVA Peptide (323-339). Evaluated by hematoxylin/eosin and major basic protein immunohistochemical stainings, OVA and OVA Peptide (323-339) induce similar lung inflammation. Interestingly, significant serum total IgE and OVA-specific IgE are observed in OVA mice when compared to saline control. OVA Peptide (323-339) mice show higher serum OVA-specific IgE, OVA Peptide (323-339)-specific IgE, IL-4 and lower IFN- γ similar to OVA mice. The proliferative response to OVA is found in cultured splenocytes of both OVA and OVA Peptide (323-339) mice, while the similar proliferative response to OVA Peptide (323-339) is only observed in the splenocytes of OVA Peptide (323-339)-sensitized and challenged mice. Although OVA Peptide (323-339) induces a Th2-like response in the mouse model as does OVA, OVA Peptide (323-339) has clearly limited immunogenic potency to activate OVA-sensitized and challenged mice splenocytes, unlike OVA^[2].

PROTOCOL (Extracted from published papers and Only for reference)

Cell Assay: ^[1]A20 B cell lines are loaded, or not, with different concentrations of OVA Peptide (323-339) overnight. Cells are then conjugated with purified mouse CD4⁺ T cells and incubated for 20 h. After the 20 h incubation period, supernatant is recovered and stored at -20°C. IFN- γ production is quantified in the supernatants by sandwich ELISA. 96-well plates are analyzed. T cells cultured for two to four days in the presence of 3 μ g/mL of anti-CD3 antibody are used as positive control of T cell activation. B cells cultured for 48 h in the presence of 2.5 μ g/mL of anti-CD40 antibody and 5 μ g/mL of the F(ab')₂/F(ab) portion of an anti-mouse IgG antibody are used as positive control for B cell activation^[1].

Animal Administration: OVA Peptide (323-339) is prepared in vehicle (saline)^[2]. Mice^[2]

Fifty-one 8-week-old female BALB/c mice are randomly divided into three groups: OVA, OVA 323-339 and saline. They are intraperitoneally injected with 25 μ g OVA or OVA Peptide (323-339) absorbed on 300 μ g Alum or saline on days 0, 7, 14. On days 21-23, all groups are challenged intranasally with 20 μ L of 1% OVA, 1% OVA Peptide (323-339) and saline, respectively. On days 0, 7, 14, mice are intraperitoneally injected with 25 μ g OVA or OVA Peptide (323-339) absorbed on 300 μ g Alum, or saline; on days 21-23, all groups are challenged intranasally with either 20 μ L of 1% OVA, 1% OVA Peptide (323-339) or saline. On day 28, after killing, splenocytes are isolated and cultured under the stimulus of each allergen or medium.

References:

- [1]. Fontinha D, et al. Murid Gammaherpesvirus Latency-Associated Protein M2 Promotes the Formation of Conjugates between Transformed B Lymphoma Cells and T Helper Cells. PLoS One. 2015 Nov 6;10(11):e0142540.
- [2]. Sun LZ, et al. Comparison between ovalbumin and ovalbumin peptide 323-339 responses in allergic mice: humoral and cellular aspects. Scand J Immunol. 2010 May;71(5):329-35.

CAIndexNames:

Ile-Ser-Gln-Ala-Val-His-Ala-Ala-His-Ala-Glu-Ile-Asn-Glu-Ala-Gly-Arg

SMILES:

[ISQAVHAAHAEINEAGR]

Caution: Product has not been fully validated for medical applications. For research use only.

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