

## Ovalbumin

## Chemical Properties

CAS No. :	9006-59-1
Formula:	C16H26O5
Molecular Weight:	298.379
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

## Biological Description

Description	Ovalbumins are water-soluble globular glycoproteins extracted from egg whites. Ovalbumins are abundant proteins synthesized in the oviduct following estrogen or progesterone treatment. Ovalbumins exhibit hypotensive, antibacterial, anticancer, antioxidant, and immunomodulatory activities. Ovalbumins are commonly used as markers for studying hormone-regulated gene expression in this tissue.
Targets(IC50)	Endogenous Metabolite
In vitro	<b>Methods:</b> Autologous bone marrow-spleen co-culture supplemented with Ovalbumins (10 µg/mL) for 7 days, followed by cytomorphological identification (May-Grünwald-Giemsa staining, toluidine blue staining) and differential cell counting of 1000 cells. <b>Results:</b> The ovalbumin-stimulated group exhibited a significant increase in basophils. [1]
In vivo	<b>Methods:</b> To investigate the response of peripheral blood basophils to Ovalbumins, guinea pigs received intraperitoneal injections of Ovalbumins (50 mg/animal/day × 6 days), with measurements taken on days 0, 3, 7, and 14. <b>Results:</b> Basophil counts significantly increased (approximately 5-fold) between days 3 and 7, returning to normal levels by day 14. [1] <b>Methods:</b> Female BALB/c mice received intranasal instillation of Ovalbumins (1 mg/kg/dose) mixed with SNPs (10 mg/kg/dose) three times weekly for two weeks (total of six doses). <b>Results:</b> Combined Ovalbumins and SNP treatment significantly induced allergic airway inflammation, leading to marked increases in total cell count, macrophages, neutrophils, eosinophils, and lymphocytes. [2]

## Solubility Information

Solubility	DMSO: 1.39 mg/mL (4.66 mM), Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble) (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	PBS: 33.00 mg/mL (110.60 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	3.3514 mL	16.7572 mL	33.5143 mL
5 mM	0.6703 mL	3.3514 mL	6.7029 mL
10 mM	0.3351 mL	1.6757 mL	3.3514 mL
50 mM	0.067 mL	0.3351 mL	0.6703 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Denburg JA, Davison M, Bienenstock J. Basophil production. J Clin Invest. 1980 Feb;65(2):390-9.

Han H, et al. Toxic and adjuvant effects of silica nanoparticles on ovalbumin-induced allergic airway inflammation in mice. Respir Res. 2016 May 18;17(1):60.

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