Supplementary information

Figure legends

Figure 1. Effects of DMY on the levels of specific antibodies and cytokines.

A. The effect of daily treatment with DMY on serum OVA-specific IgG1. The serum from eyeball was collected on day 41.

B. The effect of daily treatment with DMY on serum OVA-specific IgG2a. The serum from eyeball was collected on day 41.

C. The effect of daily treatment with DMY on serum IL-4. The serum from eyeball was collected on day 41.

D. The effect of daily treatment with DMY on serum IFN-γ. The serum from eyeball was collected on day 41.

*P < 0.05; **P < 0.01, for the PBS group compared to the OVA group. The data represent the mean ± SD of triplicate determinations.

Figure 2. Effects of DMY on the population of DCs and T cells in the spleen.

A. The scatter diagrams of DCs FACS analysis. Spleens were isolated from each group of mice 24 h after the last challenge and labeled with anti-CD11c and anti-MHC II antibodies.

B. The expression of CD69 in CD4+ T cells by FACS analysis. Spleens were isolated from each group of mice 24 h after the last challenge, and labeled with anti-CD4 and anti-CD69 antibodies.

*P < 0.05; **P < 0.01, for the PBS group compared to the OVA group. The data represent the mean ± SD of triplicate determinations.
**Figure 3. Effects of DMY on the expression of FcεRI in RBL-2H3 cells.**

A. Cell surface expression of FcεRIα was assessed by FACS analysis. RBL-2H3 cells were treated with DMY (1, 5, or 10 µg/mL) for 24 h, and then labeled with anti-FcεRIα antibodies. Cells without DMY served as control group.

B. The expression of mRNA for FcεRIα, FcεRIβ and FcεRIγ was assessed by real time PCR. RBL-2H3 cells were treated with DMY (1, 5, or 10 µg/mL) for 24 h.

C. The expression of mRNA for FcεRIα, FcεRIβ and FcεRIγ was assessed by real-time PCR. RBL-2H3 cells sensitized with anti-DNP-IgE and were treated with DMY (1, 5, or 10 µg/mL) for 24 h. Sensitized cells without DMY served as IgE group.

\(^#P < 0.05; ^##P < 0.01\), for the control group compared to the IgE group. The data represent the mean ± SD of triplicate determinations.

**Figure 4. Effects of DMY and its homologs on cell viability, and the release of β-hexosaminidase affected by the DMY-mediated blockade of FcεRI-IgE.**

A. The cytotoxicity of DMY and its homologs on RBL-2H3 cells were evaluated using MTT assay. RBL-2H3 cells were incubated with resveratrol at a dose of 1-15 µg/mL.

B. The release of β-hexosaminidase affected by the DMY-mediated blockade of FcεRI-IgE. RBL-2H3 cells were sensitized with anti-DNP-IgE and treated with DMY (1, 5, or 10 µg/mL) for 24 h, medium was changed to Tyrode’s buffer and stimulated with DNP-BSA for 1 h. Then, β-
Hexosaminidase was subsequently measured.

*^P < 0.05; **^P < 0.01, for the PBS group compared to the DNP-BSA group. The data represent the mean ± SD of triplicate determinations.
Figure 1

A

B

C

D
Figure 3

A

2 h

APC FcεRIα

DMV 10

Control

6 h

12 h

24 h

B

Relative expression of β-actin

DMV (μg/mL)

0

1

5

10

Control

C

Relative expression of β-actin

DMV (μg/mL)

0

1

5

10

Control

IgE

DMV (μg/mL)
Figure 4

A

Cell viability (% of control)

0 1 2.5 5 10 15

Compound (µg/mL)

B

Extracellular release (% total)

0 10 20 30 40

PBS OVA 1 5 10

DMY (mg/kg)