Cetirizine, a second-generation antihistamine and the carboxylated metabolite of hydroxyzine, is a specific, orally active and long-acting histamine H1-receptor antagonist. Cetirizine marks antiallergic properties and inhibits eosinophil chemotaxis during the allergic response.[1][2][3].

**IC50 & Target**

**H1 receptor**

**In Vitro**

Cetirizine (>5 μM) at higher concentrations can reduce the release of GM-CSF and IL-8 from A549 cells stimulated with IL-1β. Cetirizine exerts anti-inflammatory effects beyond histamine H1-receptor antagonist[2].

**Cell Viability Assay[2]**

- **Cell Line:** Human airway epithelial cell line A549.
- **Concentration:** 0-10 μM.
- **Incubation Time:** 24 h.
- **Result:** The survival of A549 cells incubated with various concentrations of cetirizine (0.1, 1, 2.5, 5, and 10 μM) for 24 hours were all higher than 90% when comparing with the control group by MTT test. Cetirizine, 5 and 10 μM, suppressed GM-CSF release by 70.71 and 61.55%, respectively. Preincubation with cetirizine, 10 μM, suppressed the IL-8 secretion by 75.04%.

**In Vivo**

Cetirizine (20 mg/kg, mice, orally) exerts its anti-inflammatory effects by inhibiting MIF as well as IL-8 production in mice immunized and challenged with ragweed pollen[3].

- **Animal Model:** Male 8-week-old BALB/c mice (25-30 g) immunized and challenged with ragweed pollen[3]
- **Dosage:** 2 or 20 mg/kg.
- **Administration:** Orally, diluted in sterile water on days 18, 19, and 20.
- **Result:** The neutrophilia at 8 h and eosinophilia at 24 h induced by ragweed pollen extract per os were significantly reduced in the mice treated with 20 mg/kg. The dosage with 2 mg/kg had no effect.
REFERENCES

