Chitinase Inhibitors for Asthma

**OCR Number:** OCR 1181

**Description:**

- Chitinases are over-expressed in the lungs of patients with asthma, and in mouse models of asthma (Figure 1).
- Treatment of these mice with anti-chitinase antibodies or small molecule inhibitors markedly decreased asthma symptoms (Figure 2).
- YKL-40, a member of this protein family, is a key regulator of cytokine signaling, inflammation, apoptosis, angiogenesis, and tissue remodeling.
- Potential indications include asthma/COPD, inflammation, atherosclerosis, and cancer.

![Figure 1. Detection of AMCase in aeroallergen ovalbumin mouse model.](image1)

![Figure 2. Administration of AMCase inhibitor in asthma mouse model decreased in Th2 inflammation.](image2)

**Stage of Development:** Extensive in vivo studies have been done.

**IP Status:** Yale has extensive IP portfolio in this area, including exclusive access to large panel of monoclonal antibodies.

**Published/Issued Patents:**
- [U.S. Patent No. 7,214,373](https://www.google.com)
- [U.S. Patent No. 8,679,503](https://www.google.com)

**Publications:**