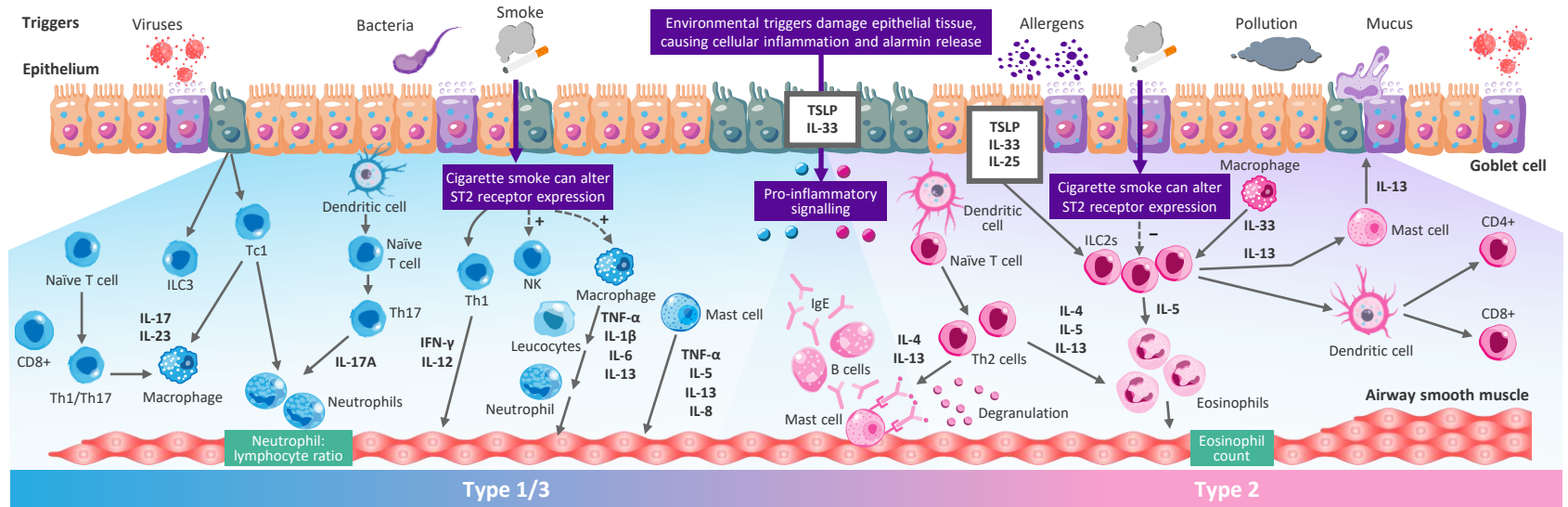


# Inflammation in COPD

Inflammation associated with COPD\*



## Disease pathology and clinical manifestations

<p>Emphysema, dyspnoea and chronic cough</p>	<p>Excess mucus production</p>	<p>Chronic inflammation, pro-inflammatory signalling and exacerbations</p>	<p>Potential for small airway obliteration and lung parenchyma destruction?</p>	<p>Potential for fibrosis, epithelial remodelling and epithelial damage?</p>
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\*Please note that the proposed inflammatory pathways in COPD shown here have been simplified for illustration purposes only and do not align with specific disease pathology or clinical manifestations, nor do they imply clinical benefit or relevance. Inflammation in COPD is associated with Type 1, Type 3, and Type 2 pathways contributing to heterogeneous disease pathology and clinical manifestations.<sup>1-8</sup> This can be further impacted by environmental triggers including smoking, which can increase or decrease ST2 receptor expression on inflammatory cells.<sup>9</sup> To determine a patient's disease phenotype and contribute to better understanding the underlying disease biology, biomarkers of disease such as eosinophil count and the neutrophil:lymphocyte ratio can be measured.<sup>1,5</sup> Figure adapted from Calderon AA, et al. Eur Respir Rev 2023;32:220144 and Brightling C, Greening N. Eur Respir J 2019;54:1900651.

CD, cluster of differentiation; COPD, chronic obstructive pulmonary disease; IFN, interferon; IgE, immunoglobulin E; IL, interleukin; ILC, innate lymphoid cell; NK, natural killer; ST2, suppression of tumourigenicity 2; Tc, cytotoxic T cell; Th, T helper; TNF, tumor necrosis factor; TSLP, thymic stromal lymphopietin  
 1. Calderon AA, et al. Eur Respir Rev 2023;32:220144; 2. Brightling C, Greening N. Eur Respir J 2019;54:1900651; 3. MacNee W. Proc Am Thorac Soc 2005;2:258-266; 4. Paliogiannis P, et al. Eur Respir Rev 2018;27:170113; 5. Rabe KF, et al. Am J Respir Crit Care Med 2023;208:395-405; 6. Safiri S, et al. BMJ 2022;378:e069679; 7. Keddache S, et al. Clin Immunol 2021;229:108798; 8. Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease report. 2024. Available from: <https://goldcopd.org/2024-gold-report/> (Accessed 11 April 2024)