

CONTINUING MEDICAL EDUCATION EXAMINATION

# Group 2 Innate Lymphoid Cells: New Players in Human Allergic Diseases

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## CME Items

- Which of the following describes ILC2s correctly?
  - Specialized innate T cells that produce T<sub>H</sub>2 cytokines
  - A novel natural killer T-cell subset that produces IL-5 and IL-13
  - Lineage-negative lymphocytes that produce high levels of T<sub>H</sub>2 cytokines
  - A subset of basophils that produce IL-4
- Which of the following statements is correct?
  - Lineage-negative* means that ILC2s are from a previously undescribed and novel lineage
  - Lineage-negative* means that ILC2s do not express lineage surface markers known for T cells, B cells, NK cells, and other known lineage cells
  - Lineage-negative* means that ILC2s can be identified by a specific surface marker that is unique for this cell type
  - Lineage-negative* means that the ILC2 precursor is not found in the bone marrow
- All of the following transcription factors are critical for ILC2 development except:
  - T-bet
  - GATA-3
  - Notch
  - IL-7R
- Which of the following mediators are produced by ILC2s?
  - IL-33
  - Cysteinyl leukotrienes
  - IL-5
  - TSLP
- Which of the following receptors are expressed by human ILC2s?
  - CRTH2 that binds prostaglandin D<sub>2</sub>
  - CRTH2 that binds to cysteinyl leukotrienes
  - T1/ST2 that binds to IL-25
  - T1/ST2 that binds to TSLP
- All of the following lipid mediators have been shown to modulate ILC2 function except:
  - Cysteinyl leukotrienes
  - Prostaglandin D<sub>2</sub>
  - Lipoxin A<sub>4</sub>
  - Prostaglandin E<sub>1</sub>
- Which of the following is correct?
  - ILC2s from the lungs of asthmatics have been shown to produce high levels of IL-5 and IL-13
  - ILC2s from the peripheral blood of asthmatics have been shown to produce high levels of IL-5 and IL-13
  - Peripheral blood ILC2s have been shown to be increased in severe asthmatics compared with mild asthmatics
  - Lung ILC2s have been shown to be increased in severe asthmatics compared with mild asthmatics
- Mouse models of asthma have shown that ILC2s contribute to all of the following except:
  - Airway hyperresponsiveness
  - Lung eosinophilia
  - Tissue repair
  - Smooth muscle hypertrophy
- With regard to ILC2s in chronic rhinosinusitis and allergic rhinitis, which of the following is correct?
  - ILC2s have been detected at higher levels in eosinophilic nasal polyps compared with noneosinophilic polyps
  - Increased ILC2s have been found in the blood of pollen-allergic individuals during the pollen season
  - Increased ILC2s have been found in the blood of cat-allergic individuals after cat allergen challenge
  - All of the above
- Which of the following ILC2 regulatory mechanisms studied in human atopic dermatitis can control levels of skin inflammation?
  - E-cadherin binds to KLRG-1 expressed on ILC2s leading to ILC2 activation
  - E-cadherin binds to KLRG-1 expressed on ILC2s leading to inhibition of ILC2 activation
  - KLRG-1 binds to E-cadherin expressed on ILC2s leading to ILC2 activation
  - KLRG-1 binds to E-cadherin expressed on ILC2s leading to inhibition of ILC2 activation