Eosinophilic Research at the Cincinnati Center for Eosinophilic Disorders (CCED)

The Cincinnati Center for Eosinophilic Disorders (CCED) is a leader in research for these often-misunderstood conditions. Our research spans all states of therapeutic development. Developing new treatments and cures is an involved process that requires significant time and investment, especially during the fundamental stages of basic research and discovery validation, which are a major priority of the CCED. The CCED has a critical role in this process, working tirelessly on each stage, and has already had a key role in the development of therapeutic strategies for eosinophilic disorders such as eosinophilic esophagitis (EoE) and hypereosinophilic syndrome (HES).

Stages of Therapeutic Development (*Level of CCED Involvement)

<table>
<thead>
<tr>
<th>Mechanism</th>
<th>Target</th>
<th>CCED Research</th>
<th>Therapeutic Agent</th>
<th>CCED Clinical Trials</th>
<th>Phase of Development</th>
</tr>
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<tbody>
<tr>
<td>Suppress inflammatory response</td>
<td></td>
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<tr>
<td>Systemic corticosteroids</td>
<td>Immune system</td>
<td>1-3</td>
<td>Flovent</td>
<td>4,5</td>
<td>Off-label clinical use</td>
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<tr>
<td>Topical corticosteroids</td>
<td>Local inflammation</td>
<td>1-3</td>
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<td>and Current Trial</td>
<td>Off-label clinical use</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>(enrollment closed)</td>
<td>III</td>
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<tr>
<td>Anti-inflammatory</td>
<td>CDH26</td>
<td>6,7</td>
<td>Budesonide</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>CDH26-Fc</td>
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**Current* Pipeline of Diagnostic and Therapeutic CCED Research (continued)**

<table>
<thead>
<tr>
<th>Mechanism</th>
<th>Target</th>
<th>CCED Research</th>
<th>Therapeutic Agent</th>
<th>CCED Clinical Trials</th>
<th>Phase of Development</th>
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<tbody>
<tr>
<td>Block eosinophil recruitment</td>
<td></td>
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<tr>
<td>Chemokine inhibition</td>
<td>CCR3</td>
<td>8-35</td>
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<tr>
<td>Chemokine inhibition</td>
<td>CCL11 (eotaxin-1)</td>
<td>8,9,11,13,16,19,21,24-26,29,30,32,34-76</td>
<td>Bertilimumab</td>
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<tr>
<td>Cytokine inhibition</td>
<td>IL-13</td>
<td>1,3,16,17,19,26,28,29,32,33,55,58,59,61,65,69,74,77-111</td>
<td>QAX576</td>
<td>Current Trial (ongoing)</td>
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<tr>
<td>Cytokine receptor inhibition</td>
<td>IL-13R</td>
<td>29,78,80,81,90,102,104,106,107</td>
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<td>Cytokine receptor inhibition</td>
<td>IL-4R</td>
<td>29,33,74,77-</td>
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<td>Anti-inflammatory</td>
<td>TGF-β</td>
<td>29,71,105,114</td>
<td>Lorsartan</td>
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<td>Adhesion molecule inhibition</td>
<td>Periostin</td>
<td>115</td>
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<tr>
<td>Chemokine inhibition</td>
<td>CCL26 (eotaxin-3)</td>
<td>1,3,23,28,79,82,103,116-118</td>
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<td>Epigenome modifiers</td>
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<td></td>
<td>Fundamental</td>
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<td>Inhibit eosinophil activation</td>
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<tr>
<td>Cytokine inhibition</td>
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<td>Cytokine inhibition</td>
<td>IL-33</td>
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<td>Inhibit eosinophil survival</td>
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<td>Cytokine inhibition</td>
<td>IL-5</td>
<td>9,13,15-17,24,27,28,31-33,40,46,48,49,51,52,55,57-63,65,70,72,74,75,79,104,111,121,143</td>
<td>Mepolizumab</td>
<td>27,31,129,138</td>
<td>FDA-approved for eosinophilic asthma</td>
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<td>Eosinophil depletion</td>
<td>IL-5R-α</td>
<td>125,137,144,145</td>
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<td>Activation of inhibitory receptor</td>
<td>Siglec-8</td>
<td>125,137,144,145</td>
<td>Benralizumab</td>
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<tr>
<td>Activation of inhibitory receptor</td>
<td>PIRB</td>
<td>30,146</td>
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<td>Modulate epithelial barrier</td>
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<td>Cysteine protease modulation</td>
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<td>Adhesion molecule inhibition</td>
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<td>Barrier integrity modulation</td>
<td>Barrier function</td>
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<td>Molecular diagnostics</td>
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<td>Gene expression</td>
<td>Eosinophilic Esophagitis (EoE) Diagnostic Panel</td>
<td>1,107,109,149-151</td>
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<td>Clinical validation</td>
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References


in experimental colitis is mediated by Ly6C(high) CCR2(+) inflammatory phagocytes. 


