

**Immunology & Inflammation (I&I) Strategic Area of Interest  
for Investigator Initiated Studies (IIS) and Research Collaborations  
(as of 4/5/2021)**

**DERMATOLOGY**

- **Current Indications: dupilumab in Atopic Dermatitis**
  - Evaluate the [optimal] utilization of dupilumab for the treatment of AD within the evolving therapeutic landscape
  - Real world AD patient / disease characteristics, burden of AD and comorbid conditions
  - Dupilumab use patterns, effectiveness, and other attributes in real-world setting
  - Special populations (e.g., skin of color, etc.)
  - Studies to measure the effect of dupilumab on AD symptoms and other important disease domains that are insufficiently characterized (e.g. sleep, pain, mental health, sensory processing, executive function, etc.)
  - New mechanistic insights into dupilumab MOA, including effect on important inflammation markers in lesional and non-lesional skin not studied previously
  - Effect of dupilumab in AD patients with comorbid type 2 inflammatory diseases (e.g. AD with comorbid asthma ± allergic rhinitis ± food allergy, etc.)
  - Effect of early AD treatment with dupilumab on the development of type 2 comorbidities, atopic march and disease modifying aspects in general
  - Dupilumab in the context of COVID-19 pandemic
  - Effectiveness of dupilumab across different phenotypes and endotypes
- **AD Disease State**
  - AD time course (natural history)
  - New mechanistic insights into AD pathophysiology, including the identification of distinct phenotypes and endotypes
- **AD Epidemiology**
  - Prevalence of AD by gender, age group, age of onset, associated comorbidities, special populations
  - Treatment patterns throughout the course of AD
- **Mechanistic**
  - Further understand the AD mechanism of disease, or dupilumab mechanism of action in relevant pathobiological contexts
- **New Disease Areas**
  - Other dermatologic diseases where existing data support that IL-4 and / or IL-13 might play a central role (beyond the ones already initiated such as PN, CSU, BP, CPUO, etc.)  
NOTE: For areas where we already have ongoing programs or ISS, proposals will need to undergo a preliminary evaluation to confirm they are not overlapping with internal initiatives and assessed for regulatory / patent risk. (Including: prurigo nodularis, bullous pemphigoid, chronic spontaneous urticaria, hand and foot dermatitis, and dermatological indications in ongoing IIS's: e.g., alopecia areata, scleroderma, keloid formation, nummular eczema). To the extent possible, this should be done before submission to the IIS portal.

## **ASTHMA**

- **Mechanism of Action (MOA)**
  - Biomarkers
  - Pathophysiology
  - Phenotyping/endotyping
  - Airway hyperresponsiveness
  - Skin prick testing sensitivity
  - Fungal sensitization
  - Eosinophilia
- **Special Populations**
  - Type 2 comorbidities
  - Asthmatics with smoking history
  - Obese
  - Exercise induced asthma
  - Acute exacerbations
- **Comparative Data**
  - Dupilumab comparative efficacy studies (indirect/switch)
- **Mechanistic**
  - Airway remodeling
  - Dupilumab bronchial concentration
- **Observational Studies**
  - Epidemiology
  - RWE

## **Chronic Rhinosinusitis with Nasal Polyps (CRSwNP)**

- **Mechanism of Action (MOA)**
  - Prevention of nasal polyp regrowth and relationship to surgery
  - Mechanism of polyp and symptom recurrence, relationship between type 2 inflammation and symptom
  - Factors (phenotypes/endotypes) predicting relapse after surgery in CRSwNP
  - Factors responsible for clinical effects of dupilumab treatment including onset of improvement
  - Imaging (e.g. CT, LMK)
  - Disease Modification
  - Type 2 inflammatory pathways & role of Type 2 cytokines on CRSwNP development & progression
  - Influence of IL-4Ra-mediated mechanisms on epithelial barrier function
  - IL-4Ra-mediated mechanisms on smell loss or improvement

- **Special Populations**
  - Type 2 comorbidities
  - CRS outcomes and biomarkers
  - Sleep disturbance due to CRSwNP symptoms or comorbid OSA
  - Impact on smell, taste and hearing
  - OCS use & surgery use
  
- **Comparative Data**
  - Dupilumab Comparative Efficacy Studies (indirect treatment comparison/switching data)
  
- **Pathophysiology**
  - Burden of Disease
  - Epithelial barrier defects, microbiome, Type 2 inflammatory cells and cytokines in CRS
  - Role of IL-4 and IL-13 in de novo polyp formation
  - Chronic Rhinosinusitis without Nasal Polyps (CRSsNP) phenotypes and the role of IL4/13
  
- **Observational Studies**
  - Epidemiology (disease or treatment)
  - RWE
  - Registries
  - Database