ChemPartner Immunologists specialize in T cell biology and other primary immune cell assays. The *in vivo* model includes rheumatoid arthritis, multiple sclerosis, asthma, inflammatory bowel disease, skin inflammatory disease, and respiratory inflammation. Our goal is to help our global biopharma partners with cancer immunotherapy and autoimmune disease drug discovery.

**INFLAMMATION & IMMUNOLOGY**

**IMMUNE CELL ASSAYS & IN VIVO MODELS**

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**PRIMARY IMMUNE CELL ASSAY**

- Whole blood/PBMC stimulation
- Monocyte stimulation
- DC cell differentiation and stimulation
- B cell activation
- T cells (total, CD4 +, CD8+) activation
- Th subsets differentiation (Th1/2/17/Treg)
- Antigen recall assay (CMV assay)
- Mixed Lymphocyte Reaction assay

**Readouts:**
- Cytokine release (ELISA/Luminex/ELISPOT)
- Flow cytometry
- Proliferation

**CELL LINE ASSAYS**

- Reporter assay (e.g. NF-κB-SEAP)
- THP1, Jurkat, TF-1, Raji cell cytokine release, proliferation

**RESPIRATORY MODELS**

- Ovalbumin-induced asthma in mice and rats
- Rapid OVA-induced pulmonary eosinophil influx model in rats
- Bleomycin-induced pulmonary fibrosis in mice
- LPS-induced pulmonary neutrophilia in mice and rats
- IL-13 induced mouse respiratory inflammation

**AUTOIMMUNE DISEASE MODELS**

- Collagen-Induced Arthritis (CIA) in rats and mice
- Adjuvant induced arthritis (AIA) in rats and mice
- Experimental Autoimmune Encephalomyelitis (EAE) in mice (under optimization)
- DSS-induced Inflammatory bowel disease (IBD) in mice

**IN VIVO PHARMACODYNAMIC MODELS**

- LPS-induced TNF-α release in rats and mice
- LPS-induced lung neutrophilia (mouse)
- Oxazolone induced Delayed Type Hypersensitivity (DTH) in mice
- Passive cutaneous anaphylaxis
- Air pouch in mice
**IN VITRO INFLAMMATION & IMMUNOLOGY ASSAYS**

**MIXED LYMPHOCYTE REACTION (MLR)**

- Incubate Granzyme B-secreting cells in an antibody-coated well.
- Remove cells by washing. Secreted Granzyme B is captured by the immobilized antibody.
- Incubate with biotinylated anti-Granzyme B antibody.
- Incubate with alkaline phosphatase conjugated streptavidin.
- Add substrate and monitor the formation of colored spots.

**COLLAGEN ANTIGEN RECALL ASSAY (IFNY ELISPOT)**

- MONKEY PBMC/BOILED PROTEIN/MAB
- CONTROL MONKEY PBMC/PBS/BLANK

**IN VIVO INFLAMMATION & IMMUNOLOGY ASSAYS**

**RAT COLLAGEN-INDUCED ARTHRITIS MODEL (CIA)**

- Day -7: Acclimation
- Day 0: Vehicle
- Day 7: cpd treatment
- Day 11: Simple collection (synovial fluid, joint, blood)
- Day 28: Vehicle

**LPS-INDUCED TNF-α RELEASE IN RAT PD MODEL**

- Groups:
  - Saline
  - Vehicle
  - Dex
  - 1MPK CPD
  - 3MPK CPD
  - 10MPK CPD
  - 30MPK CPD

**OVALBUMIN-INDUCED ASTHMA IN MICE**

- OVA sensitization and boost
- OVA challenge with Mass Dosing System of WBP
- cpd/DEX treatment

**BALB/c mice**

- Acclimation
- Vehicle
- cpd
- Treatment

**SALF Cell Classification**

- A: Saline
- B: Vehicle
- C: Dex