

BISC/ImmPort Data Release 10 studies

June 2014

Study Program: University of Pittsburgh Center for Modeling Immunity for Biodefense

Title: Modeling Pulmonary Immunity: Evaluation of the Innate Immune Response to Pathogens *Francisella tularensis*, *Mycobacterium tuberculosis* and Influenza A virus in cynomolgus macaque

Accession: SDY286

Subjects: 24

Study PI, contact: Penelope Morel, M.D., University of Pittsburgh, Pittsburgh, PA

Study Description: Alveolar macrophages from mice and macaques following infection with viral and bacterial pathogens were used to determine the similarities and differences to invading pulmonary pathogens

Publication:

- Large scale comparison of innate responses to viral and bacterial pathogens in mouse and macaque. *PLoS One*. 2011;6(7):e22401. doi: 10.1371/journal.pone.0022401 [[PubMed](#)]

Assays in ImmPort:

Assay Type	Number of Exp. Samples
Flow Cytometry	796
Luminex	46
Array	258

Clinical Assessments in ImmPort: none

Notes: New study

Study Program: University of Pittsburgh Center for Modeling Immunity for Biodefense

Title: Modeling Pulmonary Immunity: Evaluation of the Innate Immune Response to Pathogens *Francisella tularensis*, *Mycobacterium tuberculosis* and Influenza A virus in mice (C57BL/6, BALB/c)

Accession: SDY288

Subjects: 876

Study PI, contact: Penelope Morel, M.D., University of Pittsburgh, Pittsburgh, PA

Study Description: Alveolar macrophages from mice and macaques following infection with viral and bacterial pathogens were used to determine the similarities and differences to invading pulmonary pathogens

Publication:

- Large scale comparison of innate responses to viral and bacterial pathogens in mouse and macaque. *PLoS One*. 2011;6(7):e22401. doi: 10.1371/journal.pone.0022401 [[PubMed](#)]

Assays in ImmPort:

Assay Type	Number of Exp. Samples
Array	381
Cell Culture	52
ELISPOT	12
Flow Cytometry	1427
Luminex	148

Clinical Assessments in ImmPort: none

Notes: New study

Study Program: Influenza Pathogenesis & Immunology Research Center (IPIRC)

Title: Systems Biology of Seasonal Influenza Vaccination in Humans

Accession: SDY61

Subjects: 10

Study PI, contact: Bali Pulendran, Emory Vaccine Center, Atlanta, GA

Study Description: Using a systems biology approach to study innate and adaptive responses to influenza vaccination in humans during 3 consecutive influenza seasons

Publication:

- Systems biology of vaccination for seasonal influenza in humans. *Nature Immunology* 2011 Jul 10;12(8):786-95. doi: 10.1038/ni.2067. [[PubMed](#)]

Assays in ImmPort:

Assay Type	Number of Exp. Samples
Hemagglutination Inhibition	54
FCM	4
Array	27
Q-PCR	27

Clinical Assessments in ImmPort: none

Notes: Updates to Subject-to-result mapping for HAI results

Study Program: Influenza Pathogenesis & Immunology Research Center (IPIRC)

Title: Systems Biology of Seasonal Influenza Vaccination in Humans

Accession: SDY269

Subjects: 63

Study PI, contact: Bali Pulendran, Emory Vaccine Center, Atlanta, GA

Study Description: Using a systems biology approach to study innate and adaptive responses to influenza vaccination in humans during 3 consecutive influenza seasons

Publication:

- Systems biology of vaccination for seasonal influenza in humans. *Nature Immunology* 2011 Jul 10;12(8):786-95. doi: 10.1038/ni.2067. [[PubMed](#)]

Assays in ImmPort:

Assay Type	Number of Exp. Samples
Hemagglutination Inhibition	336
FCM	59
Array	263
Q-PCR	75
ELISPOT	336
Luminex_xMAP	168

Clinical Assessments in ImmPort:

Notes: Updates to Subject-to-result mapping for HAI results

Study Program: Influenza Pathogenesis & Immunology Research Center (IPIRC)
Title: Immunologic and genomic signatures of response to Hepatitis C Virus Infection

Accession: SDY162

Subjects: 20

Study PI, contact: David Hafler, Yale University, New Haven, CT

Study Description: Examine the immune response in primary immune cells from subjects who have spontaneously cleared HCV compared to HCV chronically infected subjects

Publication:

- Impaired toll-like receptor 3-mediated immune responses from macrophages of patients chronically infected with hepatitis C virus. *Clin Vaccine Immunol* 2013 Feb;20(2):146-55.
[\[PubMed\]](#)

Assays in ImmPort:

Assay Type	Number of Exp. Samples
Array	80

Clinical Assessments in ImmPort: none

Notes: Updated gene expression results to include biological sample accessions

Study Program: Systems Analysis Vaccine Responses in Healthy and Hyporesponsive Humans

Title: Systems scale interactive exploration reveals quantitative and qualitative differences in response to influenza and pneumococcal vaccines

Accession: SDY180

Subjects: 46

Study PI, contact: A. Karolina Palucka, Baylor Institute for Immunology Research, Dallas, TX

Study Description: Systems approach to study immune response to seasonal influenza and 23-valent pneumococcal vaccination in healthy adults.

Publication:

- Systems scale interactive exploration reveals quantitative and qualitative differences in response to influenza and pneumococcal vaccines. *Immunity* 2013 Apr 18;38(4):831-44.
[\[PubMed\]](#)

Assays in ImmPort:

Assay Type	Number of Exp. Samples
Array	542
Flow Cytometry	2208
Luminex xMAP	229
Virus Neutralization	89
HAI	42

Clinical Assessments in ImmPort: none

Notes: Updated gene expression results to include biological sample accession

Study Program: Responses to Influenza Vaccination in Systemic Lupus

Title: Responses to Influenza Vaccination in Systemic Lupus Year 6 2010-2011

Accession: SDY201

Subjects: 34

Study PI, contact: Linda Thompson, Oklahoma Medical Research Foundation, Oklahoma City, OK

Study Description: Compare the major components of the normal immune response to flu vaccination in SLE patients and control subjects in order to identify abnormalities in SLE group of immunocompromised individuals.

Publication: none

Assays in ImmPort:

Assay Type	Number of Exp. Samples
ELISPOT	136
Flow Cytometry	860
Hemagglutination Inhibition	68

Clinical Assessments in ImmPort: none

Notes: Added mapping of experimental samples to treatments

Study Program: Inner City Asthma Consortium (ICAC)

Title: Asthma Control Evaluation (ACE): A Biomarker-Based Approach to Improving Asthma Control and Mechanistic Studies

Accession: SDY210

Subjects: 546

Study PI, contact: William Busse, Ph.D., University of Wisconsin, Madison, WI

Study Description: The purpose of ICAC-01 is to determine whether an asthma treatment strategy that measures exhaled nitric oxide (eNO) to indicate disease progression is more effective in treating asthma symptoms when combined with existing asthma treatment guidelines than treatment using the guidelines alone

Publication:

- Management of asthma based on exhaled nitric oxide in addition to guideline-based treatment for inner-city adolescents and young adults: a randomised controlled trial. *Lancet*. 2008 Sep 20;372(9643):1065-72. doi: 10.1016/S0140-6736(08)61448-8. [[PMC free article](#)] [[PubMed](#)]

Assays in ImmPort: none

Clinical Assessments in ImmPort: Adherence Barriers, Adverse Events, Concomitant Medication, Allergen Skin Test, Brief Symptom Inventory, Follow-up Physical Exam, Exhaled Breath Condensates, etc...

Notes: Updated to subject-to-ARM mapping to reflect mapping in publication noted above.

Study Program: Vaccination and Infection: Indicators of Immunologic Health and Responsiveness

Title: Apoptosis and other immune biomarkers predict influenza vaccine responsiveness

Accession: SDY212

Subjects: 91

Study PI, contact: Mark M. Davis, Stanford University School of Medicine, Stanford, CA

Study Description: In an effort to identify benchmarks of immunological health, influenza vaccination was used in 30 young (20 to 30 years) and 59 older subjects (60 to 89 years) as models for strong and weak immune responses, respectively.

Publication:

- Apoptosis and other immune biomarkers predict influenza vaccine responsiveness. *Molecular Systems Biology* 2013 Apr 16;9:659. doi: 10.1038/msb.2013.15. [[PubMed](#)]

Assays in ImmPort:

Assay Type	Number of Exp. Samples
Hemagglutination Inhibition	534
DNA Microarray	91
Peptide Microarray	91
PhosphoFlow	63
Flow Cytometry	540
MBAA, Luminex	91

Clinical Assessments in ImmPort: none

Notes: Gene expression result matrix updated to include all 91 records and biological sample accessions

Study Program: Immunobiology of Food Allergy and Its Treatment (CoFAR)

Title: Oral Immunotherapy for Childhood Egg Allergy

Accession: SDY218

Subjects: 55

Study PI, contact: Wesley Burks, MD, North Carolina Children's Hospital and Stacie Jones, MD, Arkansas Children's Hospital

Study Description: The purpose of this study is to determine the safety and efficacy of the administration of oral immunotherapy (OIT). The intent is to develop desensitization and eventually tolerance to egg allergen

Publication:

- Oral immunotherapy for treatment of egg allergy in children N Engl J Med. 2012 Jul 19;367(3):233-43. doi: 10.1056/NEJMoa1200435. [[PMC free article](#)] [[PubMed](#)]

Assays in ImmPort:

Assay Type	Number of Exp. Samples
ELISA	939
Flow Cytometry	2370

Clinical Assessments in ImmPort: Adverse Events, Atopic Dermatitis, Basophil, Medication, Protocol Deviation, Initial Escalation, Food Allergy Episode, Antibody Assay, Prick Skin Results, etc...

Notes: Added flow cytometry .fcs files to experiment containing derived results.
