

BISC/ImmPort Data Release 2 studies

June 2013

Study Program: Innate Immune Responsiveness in the Elderly and the Immunocompromised

Title: Delineate innate immune responses in populations at risk (the elderly and the immunosuppressed) that are different from the general population

Accession: SDY40

Subjects: 884

Study PI, contact: Erol Fikrig

Study Description: Assess the efficiency of the immune response of monocytes and dendritic cells in different populations (young adult and elderly) in response to stimulation with specific TLR ligands. Focus separately on TLRs 3, 7, 8, 9, that recognize viral targets, TLRs 1, 2, 4, 6 (bacterial targets), and the effects of aging on MIF. Quantify TLR expression as well as efficiency of signaling pathways triggered by TLR engagement to identify mechanisms that contribute to the impairments of innate immunity associated with aging and immunosuppression. And assess the functional and genetic polymorphisms of MIF in the innate response to TLR stimulation.

Assays in ImmPort:

Assay Type	Number of Exp. Samples
ELISA/IL8	3624
ELISA/TNFalpha	3630
ELISA/	2833
ELISA/WNV/DC	154
FCM	1626
FCM/DC TLR	184
FCM/DC cytokine	816
qPCR/WNV	228
qPCR/WNV cytokine	342
qPCR/DC TLR	520
qPCR/monocytes	288
qPCR/WNV TLR	456
Western Blot	336
Genotyping/other	515
Genotyping/PCR	517

Clinical Assessments in ImmPort: none

Study Program: Innate Immune Responsiveness in the Elderly and the Immunocompromised

Title: Determine whether differences in TLR-responsiveness alter susceptibility to Biodefense priority pathogens, using WN virus as a paradigm, or responsiveness to vaccination

Accession: SDY41

Subjects: 903

Study PI, contact: Erol Fikrig

Study Description: To assess the effects of the impairments in innate immunity identified in the study titled Delineate innate immune responses in populations at risk (the elderly and the immunosuppressed) that are different from the general population on the efficiency of the response to agents of Bioterrorism, using WN virus infection and influenza vaccination as models.

Assess these responses directly from patients who had WN virus infection or the influenza vaccine. Elucidate mechanisms mediating innate immune responses to viral infection using murine models.

Assays in ImmPort:

Assay Type	Number of Exp. Samples
ELISA/IL8	3624
ELISA/TNFalpha	3630
ELISA/	2833
ELISA/WNV/DC	154
FCM/TLR	1626
FCM/DC TLR	184
FCM/DC cytokine	816
qPCR/WNV	228
qPCR/WNV cytokine	342
qPCR/DC TLR	520
qPCR/monocytes	288
qPCR/WNV TLR	456
Western Blot	336
Genotyping/other	515
Genotyping/PCR	517

Clinical Assessments in ImmPort: none

Study Program:

Title: Systems Biology of Seasonal Influenza Vaccination in Humans

Accession: SDY61

Subjects: 110

Study PI, contact: Bali Pulendran

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

Assays in ImmPort:

Assay Type	Number of Exp. Samples
MBAA/Luminex	168
Genome expression/array	290
qRT-PCR	196
ELISA	100
Western Blot	10
Western Blot	16
Neutralizing Antibody Titer	390
ELISPOT	336
FCM	63

Clinical Assessments in ImmPort: none

Study Program: New York Influenza Center of Excellence

Title: Vaccination with drifted variants of H5 hemagglutinin protein elicits a broadened antibody response

Accession: SDY62

Subjects: 86

Study PI, contact: Felix Santiago

Study Description: Assess the humoral response of mice immunized with drifted variant H5 hemagglutinin proteins

Assays in ImmPort:

Assay Type	Number of Exp. Samples
Neutralizing Antibody Titer	66
ELISA/competitive	108

Clinical Assessments in ImmPort: none

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

Title: Aerosol vaccination in mice

Accession: SDY64

Subjects: 197

Study PI, contact: Ralph Tripp

Study Description: A comparison between large and small droplet flu vaccination

Assays in ImmPort:

Assay Type	Number of Exp. Samples
Virus Titer	62
Hemagglutination Inhibition	14
ELISA	168

Clinical Assessments in ImmPort: none

Study Program/Contract: Defining signatures for immune responsiveness by functional systems immunology

Title: Immunologic and genomic signatures of response to Hepatitis C Virus infection.

Accession: SDY162

Subjects: 20

Study PI, contact: David Hafler

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

Assays in ImmPort:

Assay Type	Number of Exp. Samples
Array/Illumina	80

Clinical Assessments in ImmPort: none

Study Program/Contract: Rochester University Modeling Immunity for Biodefense

Title: During the human B cell (Bc) recall response, rapid cell division results in multiple Bc subpopulations. RNA microarray and functional analyses showed that proliferating CD27^{lo} cells are a transient pre-plasmablast population, expressing genes associated with Bc receptor editing. Undivided cells had an active transcriptional program of non-ASC B cell functions, including cytokine secretion and costimulation, suggesting a link between innate and adaptive Bc responses. Transcriptome analysis suggested a gene regulatory network for CD27^{lo} and CD27^{hi} Bc differentiation.

Accession: SDY165

Subjects: 15

Study PI, contact: TBA

Study Description: During the human B cell (Bc) recall response, rapid cell division results in multiple Bc subpopulations. RNA microarray and functional analyses showed that proliferating CD27^{lo} cells are a transient pre-plasmablast population, expressing genes associated with Bc receptor editing. Undivided cells had an active transcriptional program of non-ASC B cell functions, including cytokine secretion and costimulation, suggesting a link between innate and adaptive Bc responses. Transcriptome analysis suggested a gene regulatory network for CD27^{lo} and CD27^{hi} Bc differentiation.

Assays in ImmPort:

Assay Type	Number of Exp. Samples
ELISPOT	21
qRT-PCR	2954
FCM	58
Transcript Quantification	18

Clinical Assessments in ImmPort: none

Study Program/Contract: Title: VRC304 - A Phase I Study of the Safety and Immunogenicity of a Recombinant DNA Plasmid Vaccine (VRC-AVIDNA036-00-VP), Encoding for the Influenza Virus H5 Hemagglutinin Protein in Healthy Adults

Accession: SDY167

Subjects: 45

Study PI, contact: Julie Ledgerwood

Study Description: VRC304 - A Phase I, double-blind, placebo-controlled, randomized, dose escalation study to evaluate safety, tolerability, and immunogenicity of a recombinant DNA vaccine against the influenza virus hemagglutinin H5.

Assays in ImmPort:

Assay Type	Number of Exp. Samples
ELISA	430
Neutralizing Antibody Titer	44
ELISPOT	300
Virus Neutralization	88

Clinical Assessments in ImmPort: none

Study Program/Contract: Title: Immune response evaluation in patients treated with TNF-alpha blockade (anti-TNF)

Accession: SDY146

Subjects: 225

Study PI, contact: Jennifer Anolik, Christopher Ritchlin, Ignacio Sanz, Laura Milner

Study Description: A systematic study of human immune function with the goal of identifying defective mechanisms of immune response in patients treated with TNF-alpha blockade (anti-TNF)

Assays in ImmPort:

Assay Type	Number of Exp. Samples
FCM	TBD
FCM	TBD

FCM	TBD
FCM	TBD
FCM	TBD

Clinical Assessments in ImmPort: none

Study Program/Contract: Title: Responses to Influenza Vaccination in Systemic Lupus Year 1blockade (anti-TNF)

Accession: SDY196

Subjects: 225

Study PI, contact: Linda Thompson

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.

Assays in ImmPort:

Assay Type	Number of Exp. Samples
FCM	22 experiments, 5060 files

Clinical Assessments in ImmPort: none