US Veterinary Immune Reagent Network: Prioritization & Progress

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Species Collaborators: Harry Dawson, USDA, Human Nutrition Research Center; USGS, Seattle, WA,

Species Consultants: Kirk Klasing, University of California, Davis; Narayan Martha Mellencamp, Sygen International; Lucina Galina-Pantoja, Sygen

TGF-β
r IL-8
a IL-1
r IL-8
r IL-15/α IL-15
r IL-13/α IL-13

α IL13Rα1
α CXCR3
α MHC II
a IL-15Ra
α TCRb
α TCRα
α FasR
α FasL
a IL-6R
r IL-18
r IL-16
r IL-15
α IgD
rCXCL10/αCXCL10
r IFN-α/α IFN-α
r CL3L1/αCCL3L1
Catfish

r IL-17/α IL-17
α IGSF2
α chemokines
α DAP10/12
α NK lysins
α perforin
α TLR 1
α FceRγ
α CD35z
α CD8
α B7
α Th2
α Th1
α Th0
α Th17
α Th1/Th2
r IL-12/ p35 & p40
IL-12 p35 & p40

Immunological reagents including cytokines and chemokines and monoclonal and polyclonal antibodies (Ab) that identify the major leukocyte subsets (T and B lymphocytes, NK cells, macrophages, dendritic cells, neutrophils), that react with cytokines/chemokines and their receptors, and react with other important receptors that modulate immune function such as toll-like receptors are used to evaluate changes during disease, including the causes of immune-pathology. Hey also allow scientists to evaluate host responses to vaccination. Finally, they provide the means to manipulate or modulate immune responses either to enhance protective immune responses to vaccines or to reduce immune system-mediated pathology. A broad community effort began in the US 18 months ago with the target species ruminants including cattle and sheep, swine, poultry including chickens and turkeys, horses, catfish, and trout. The project directors are coordinating their efforts with other international groups and are continually revising the prioritization list and seeking input from scientists working with these species. A list of currently targeted reagents and progress regarding these will be presented.

Poultry: Hyun Lillehoj, USDA-ARS (Maryland)

Species Collaborators: Calvin Kreeker, University of Delaware; Darrell Rkiponyzik, USDA-ARS-SFPEF (Georgia); Uma Baku, USDA-ARS (Maryland); Thomas Smart, Clemson University; Chi-Cheng Wu, Purdue University; Tseng Long Lin, Purdue University

Species Consultants: Xiu Huang, University of California, Davis; Narayan Roth, USDA-ARS (Arkansas); John Butler, University of Iowa; Marie Paul LeFranc, Institut Génétique Humaine, France

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Species Coordinator

John Hansen, Western Fisheries Research Center, USGS, Seattle

Species Collaborator: Steve Kuzar, Virginia Institute of Marine Science

Species Coordinator

Joanna LaBresh, Kingfisher Biotech (soluble proteins) Chemokines and cytokines expressed in yeast, tested for bioactivity and used for mAb production. See Wagner poster this session for more detailed information.

Bettina Wagner, Cornell University (cell surface molecules) Cell surface molecules fused to IgG1 or IgG4 for expression, tested for bioactivity, and used for mAb production (See Wagner poster this session for more detailed information.)

Monoclonal Antibody Production

Samuel Black, University of Massachusetts, Amherst

*immunized with CFA or Gerbu adjuvant
*boost with IFA or Gerbu adjuvant
*Adaptive transfer to naive mouse with antigen
*Vaccinated at 10 days 7 days after thyrothymocytes feeding in methylcellulose

See poster this session for more information.