American Association of Veterinary Immunologists (AAVI) Reagent Initiative

Cynthia Baldwin

University of Massachusetts

&

Joanna LaBresh

Vice President, Endogen

AAVI Reagent Initiative

The American Association of Veterinary Immunologists has been developing a plan to address the need for reagent development since December 2003 and presented the initial plan at the 7th IVIS in Quebec in July 2004.

There is an RFA from USDA that would fund this need and we are continuing to develop our proposal. The proposal is envisioned to address the needs of all 5 species groups specified and will involve several universities as well as Endogen.

If anyone is interested in discussing and/or participating in this initiative, please contact:

Cynthia L. Baldwin, Ph.D.
Professor
Department of Veterinary & Animal Sciences
410 Paige Laboratory
161 Holdsworth Way
University of Massachusetts
Amherst, MA 01003
phone 413-545-3167
fax 413-545-6326
cbaldwin@vasci.umass.edu

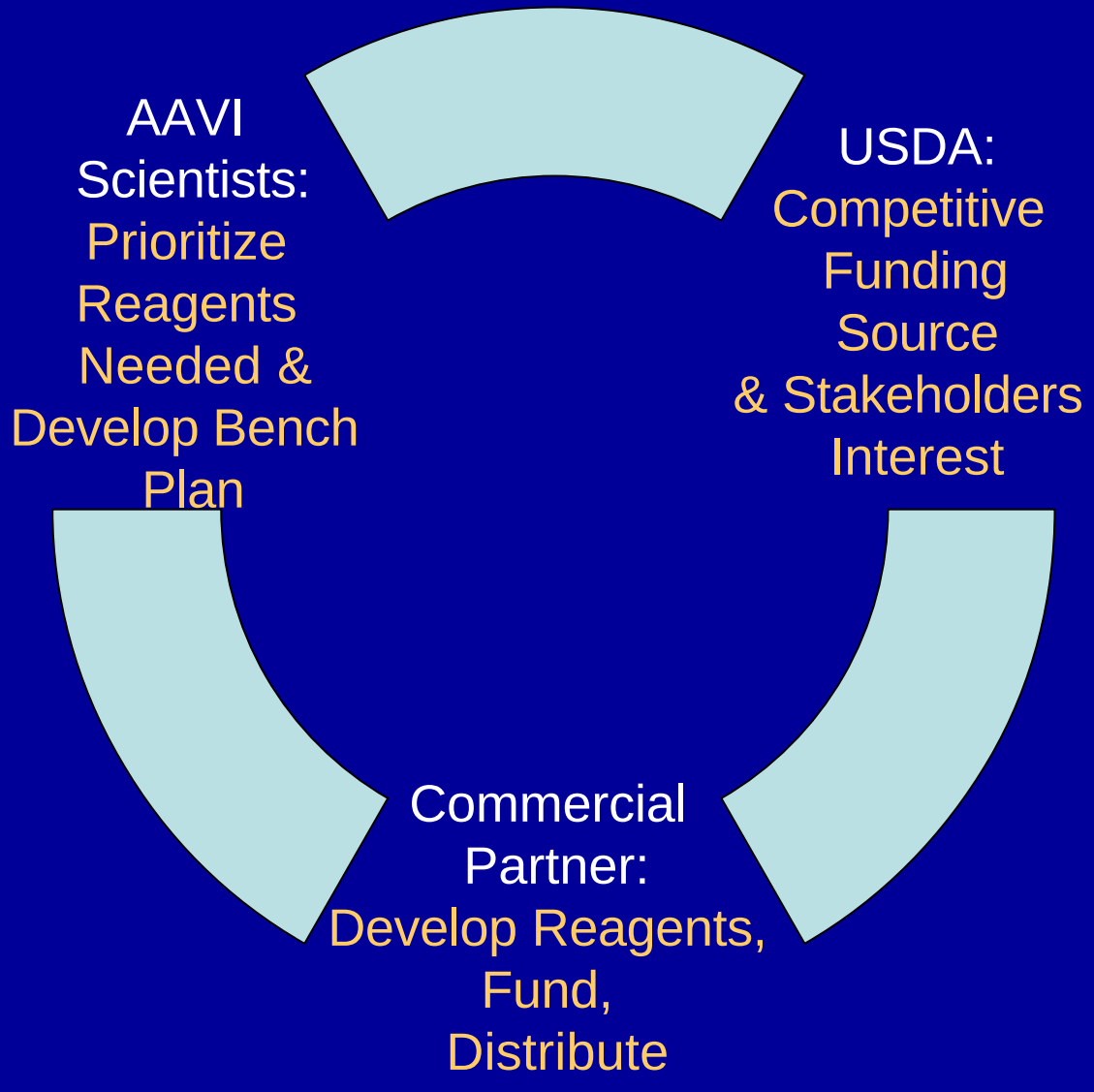
American Association of Veterinary Immunologists

Ad hoc subcommittee of AAVI

- Reagent Rescue
  - Joan Lunney & Bill Golde brought some monoclonal antibodies from ILRI for testing at Plum Island

- Reagent Development
  - Brought situation to attention of the National Program Leaders and Program Directors at USDA
  - “Vaccine Meeting” in Washington, DC in December 2003
  - AAVI to develop a plan of approach

Schematic of Components in Approach



Caveats of Plan for USDA Funding

- Species for which Reagents will be developed
- Fish
- Horses
- Poultry
- Ruminants
- Swine

- Assure wide community access
- Distribution from development source initially
- Sublicense from industry partners to University labs (pay shipping and administrative fees only) for large scale in vivo needs for mAb
- Sublicense to other commercial companies

Survey of Reagent Priorities (Achievable)

I. Antibodies to:

- Cytokines
- Cytokine receptors
- CD markers on immune system cells (dendritic cells, lymphocytes, macrophages, neutrophils)
- Immunoglobulin isotypes
- T cell receptor Variable regions
- Co-recognition receptors (TLR, NKG2, KIR)

II. Recombinant cytokines

Properties of Reagents Needed

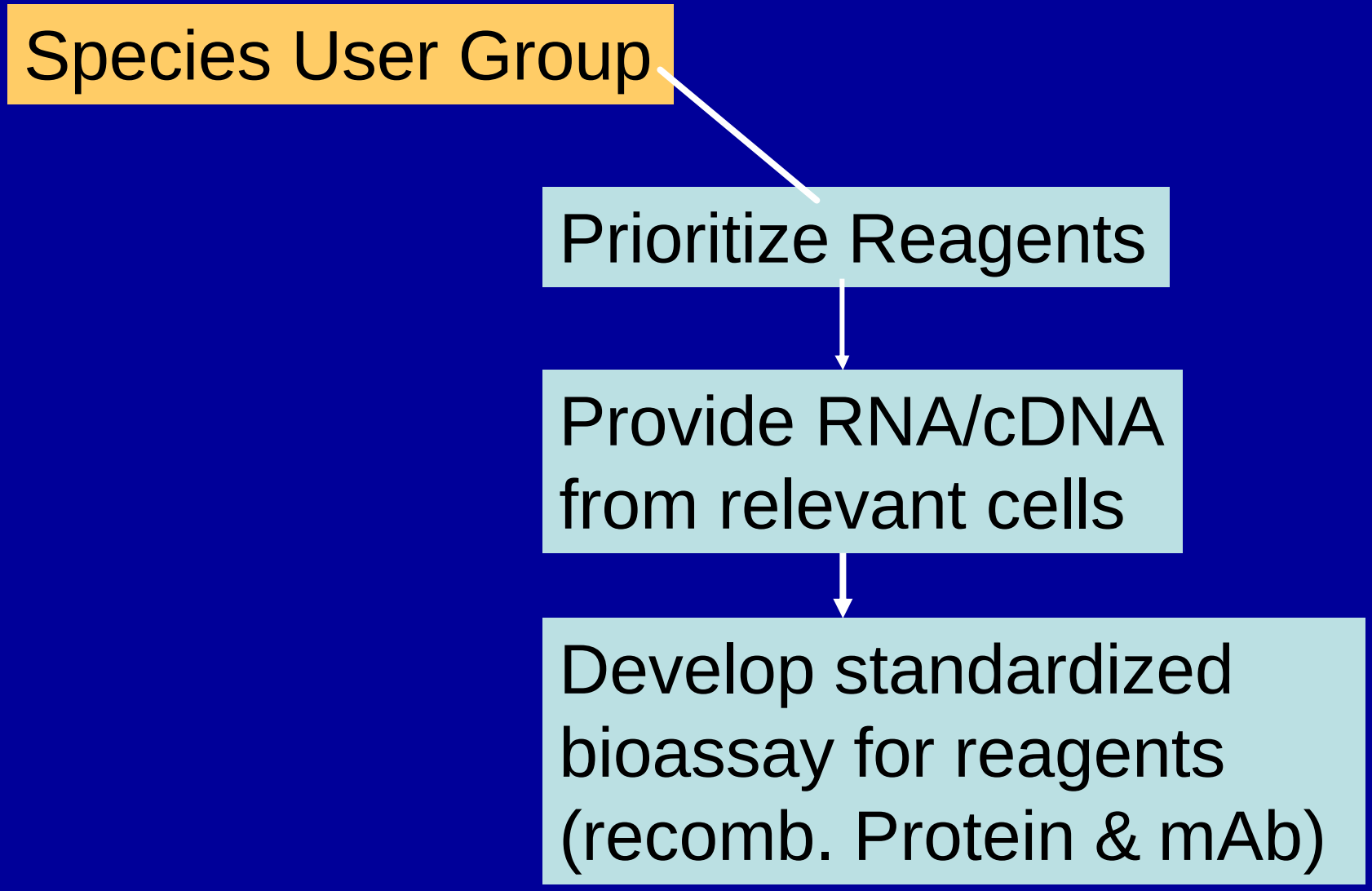
- Pairs for ELISA and Elispot
  React with 2 different epitopes on molecule: accomplished with Biacore technology

- Single mAb for intracellular staining
- Blocking mAb for cytokine receptors
- Blocking mAb for cytokine bioactivity
- Bioactive recombinant cytokines
  Need to be done by species coordinators in Standardized Assays

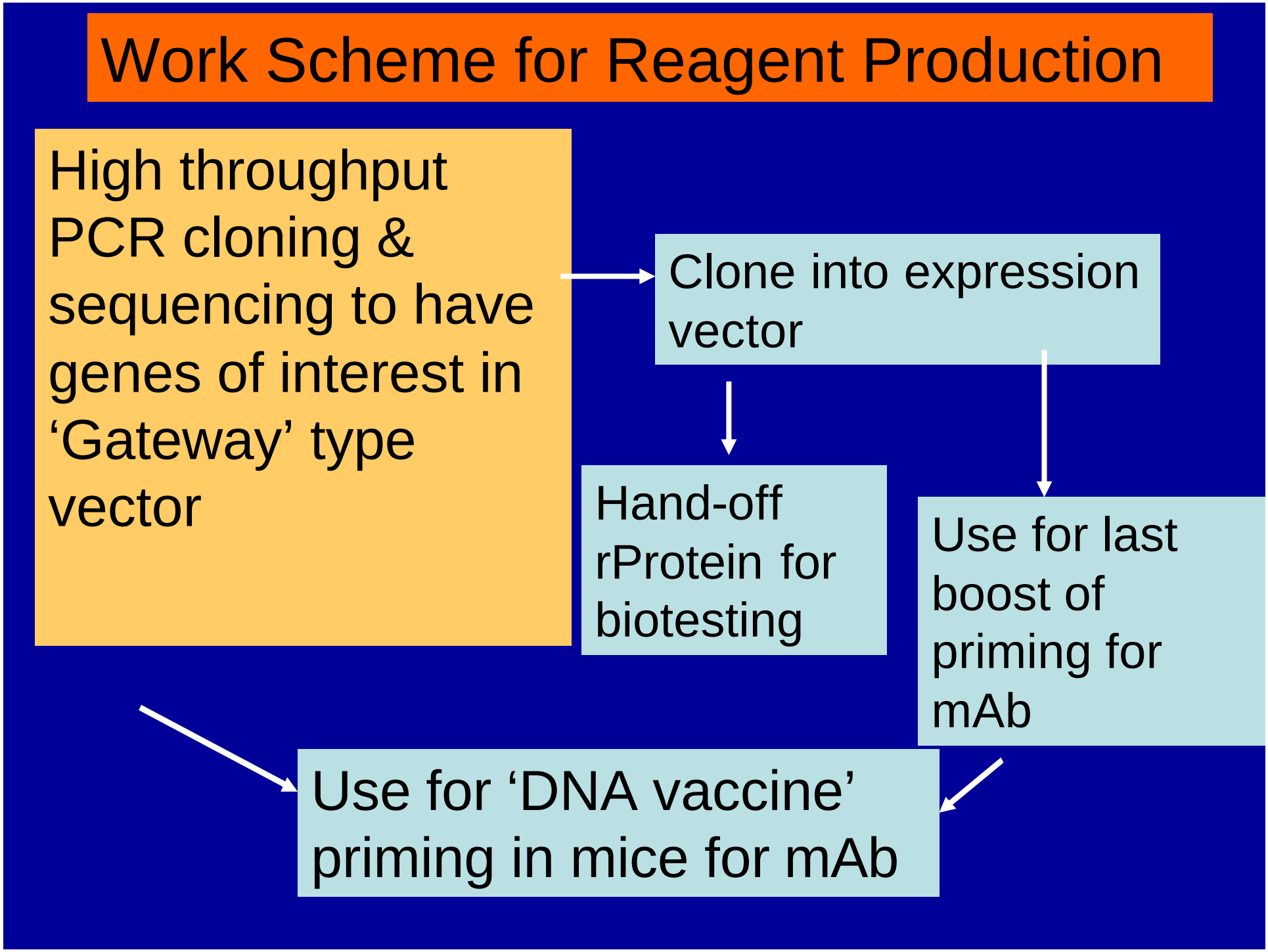
Prioritizing Reagents

- A pair of scientists for each species to prioritize reagents needed
- Survey can be done electronically with Endogen with filters for US vs. World & ask # of recent publications to get active researchers
- Need to ensure get responses from active researchers***
- Cross-reference with UK initiative and commercial companies so avoid duplication

Work Scheme


Species User Group
Prioritize Reagents
Provide RNA/cDNA from relevant cells
Develop standardized bioassay for reagents (recomb. Protein & mAb)

Work Scheme for Reagent Production



Centralized Facilities Organization