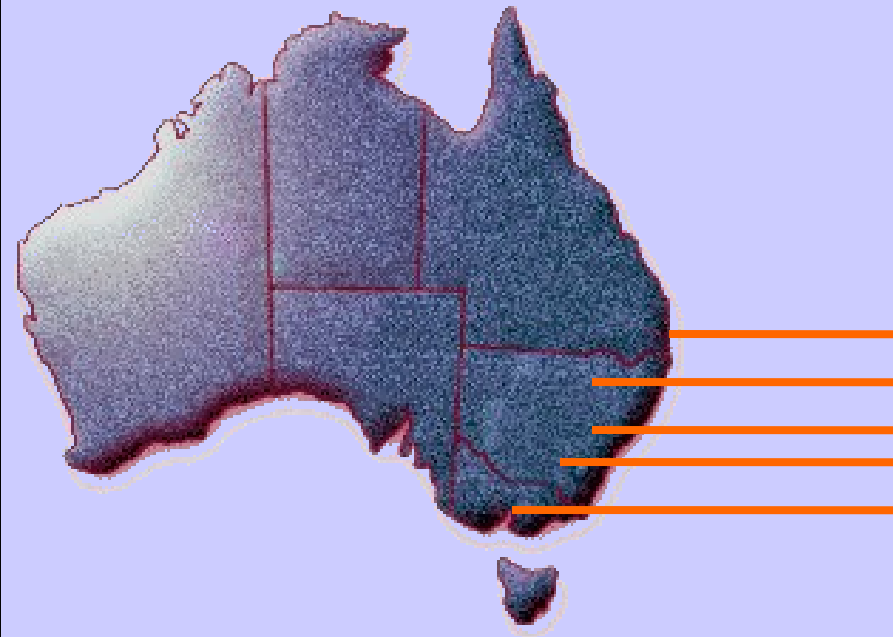


# Dairy Cooperative Research Centre

## Molecular Pathways From Text

**Maurice Ling**  
**PhD student**



**Brisbane**  
**Armidale**  
**Sydney**  
**Canberra**  
**Melbourne**



CRC for Innovative Dairy Products



# CRC BACKGROUND:



**Research consortium established in 2001 by the Australian dairy industry and the Commonwealth Government**



**\$90 million over 7 years (\$20m Fed Govt)**



**Over 90 scientists on 6 campuses**



**Combination of public and commercial R&D**



**CRC** for Innovative Dairy Products

# CRC AIMS:



**Make milk more competitive in the market place**



**Expand the choice of health-giving milk products**

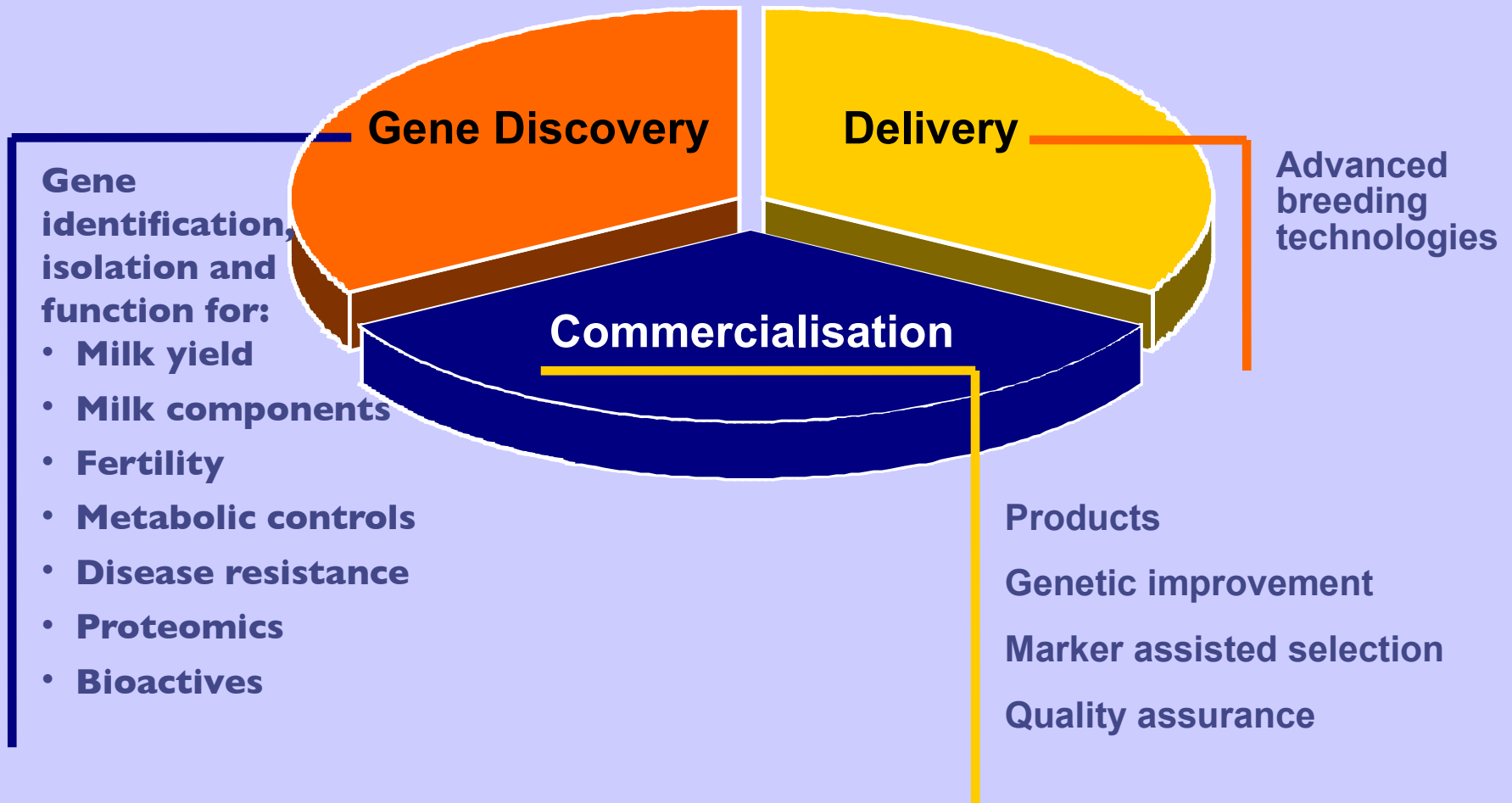


**Provide players in the dairy supply chain with access to advanced technologies and products**



CRC for Innovative Dairy Products

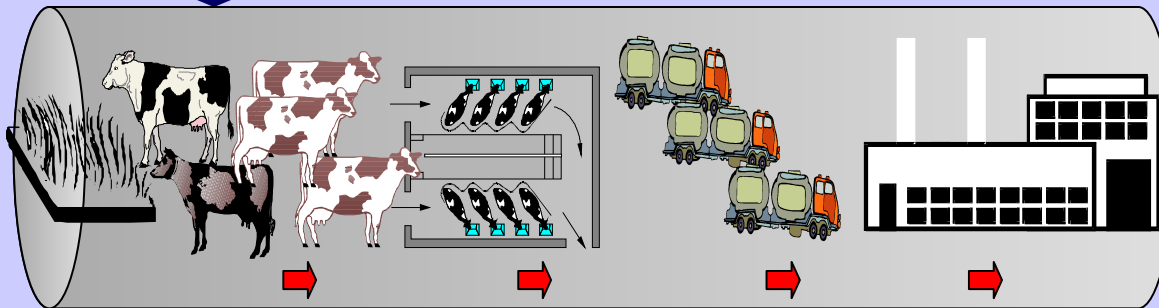
# CRC STRATEGY:



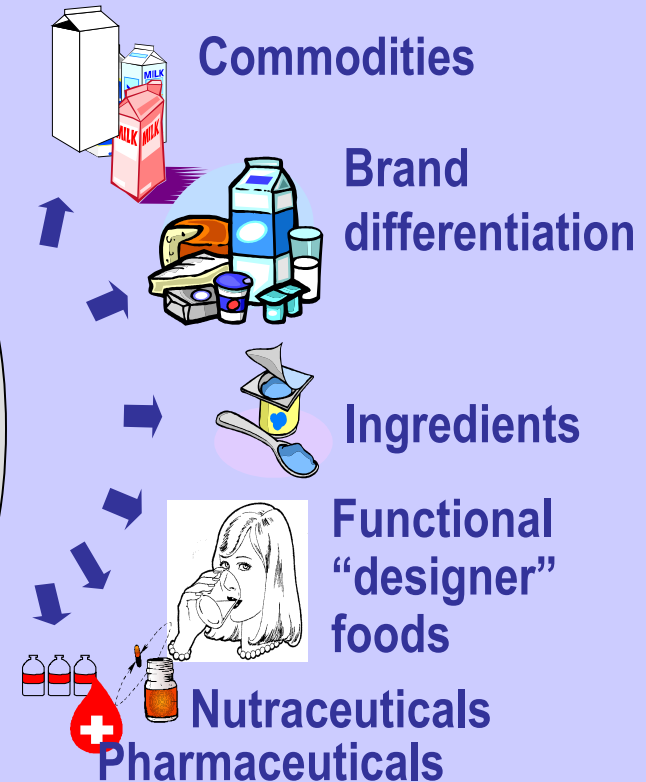
CRC for Innovative Dairy Products

# CRC INTEGRATED GENETIC SUPPLY CHAIN

**Genetic  
Differentiation  
& Control**



**Quality control  
outcomes**



CRC for Innovative Dairy Products

# Papers Published on Mouse

- 1 million new citations in PubMed (all animals) in 2004
- More than 780000 papers indexed since 1949
- 1949-2000: 608000 papers
- 2001-now: 171000 papers
- Average rate of last century: 234/week
- Average rate of this century: 740/week
- Average rate of 2004: 805/week
- Increasing at increasing rate (exponential)



# Main Problems

- Too much information, too fast
- Time between reviews is long
- Few attempts to aggregate information

## Consequences:

- Difficult to keep up with latest information
- No domain-specific aggregation of information



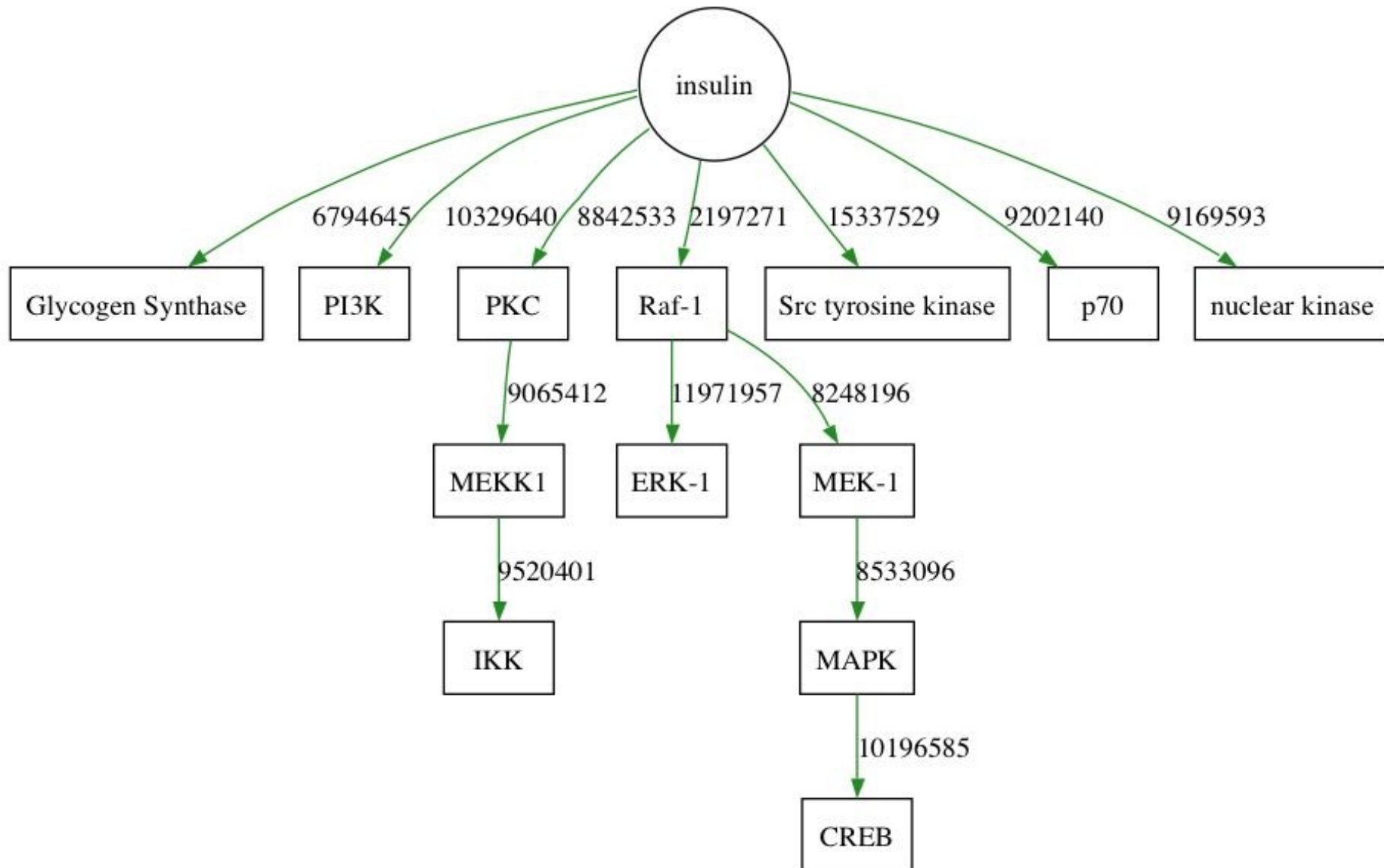
# Aims of project

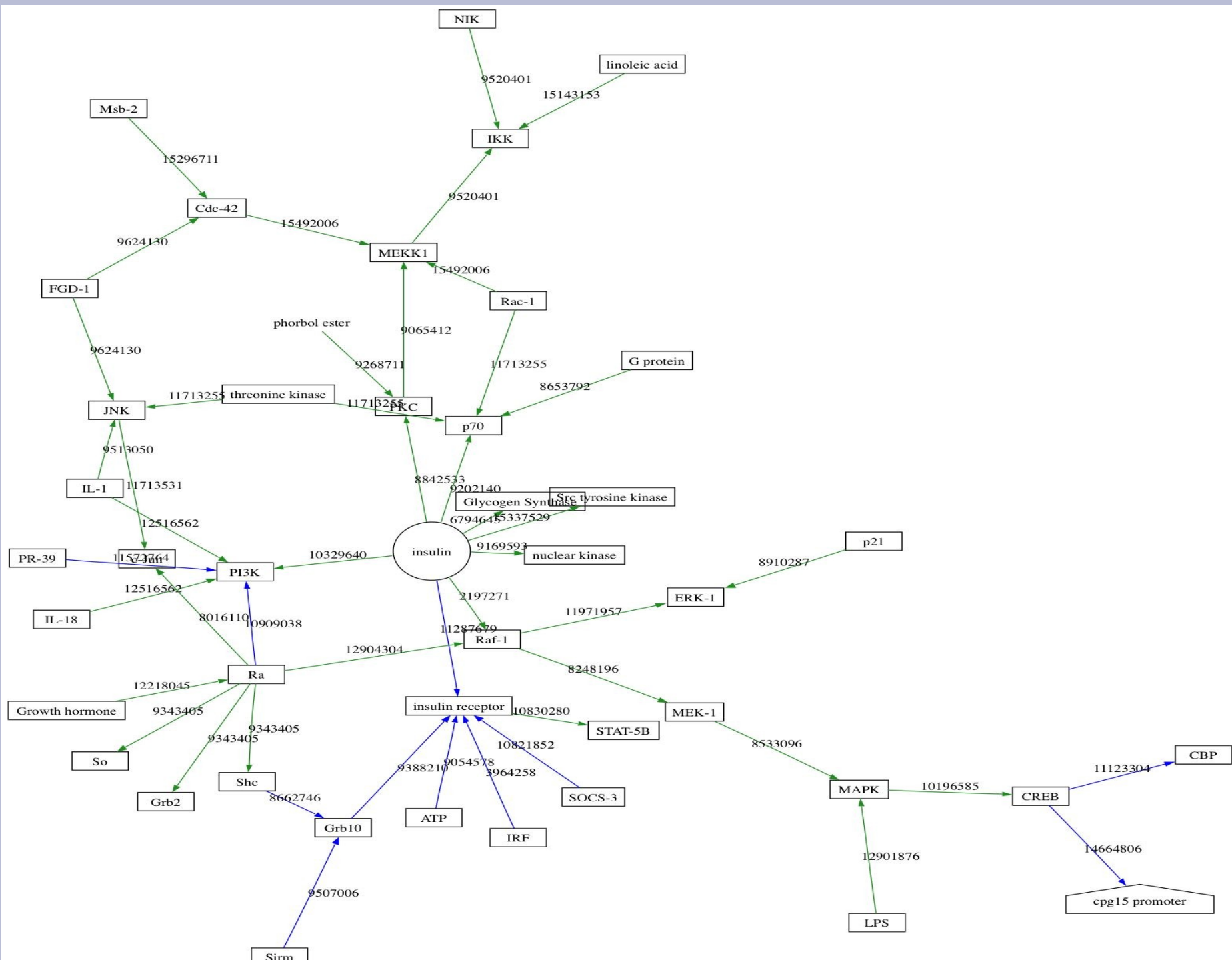
- Build a model of protein-gene, protein-protein interactions
  - Mammary epithelial cell
  - Protein-gene: signaling of lactogenic hormones
  - Protein-protein: 5000 gene set (Affymetrix 5K mouse)
- Establishing the tools needed
  - Tool for molecular modeling and simulation – Mosirium (modelio-simularium)
  - Tool for text analysis and mining – Muscorian (musculus corpus librarian)





# Trial run of Insulin activation







- A web-based resource on biotechnology for Years 11 & 12
- Links with the curriculum
- Uses the dairy industry as an example
- Careers information & case studies
- Visit via [www.dairycrc.com](http://www.dairycrc.com)

