

EADGENE
European Animal Disease Genomics Network of Excellence
for Animal Health and Food Safety

Genomics for Animal Health: Outlook for the Future
13- 14th October 2009, Muséum National d'Histoire Naturelle, Paris, France



Inferring Gene Regulatory Networks
From Time Series Gene Expression Data

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Introduction

- Systems biology
- Regulatory processes and key players
- Network generating approaches
 - (I) networks based on correlation of gene expression
 - (II) expression data superimposed on known immunological pathways

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Aim

- Generate gene regulatory networks from gene expression time series data
 - Identify and analyze key regulators
- Combine different known immunological pathways in 'big' network
 - Identify and analyze key regulators

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Results

By inferring gene regulatory networks from genomics data, key regulator genes can be identified

Expression patterns of immunological key regulator genes suggest correlation with overall expression of pathways in which these key regulator genes are involved

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