

Profiling gene expression of specific gut epithelial cells obtained by Laser dissection
 Willem Swinkels (Animal Sciences Group Lelystad, Wageningen and Utrecht University)

EADGENE **SABRE**
 CUTTING EDGE GENOMICS FOR SUSTAINABLE ANIMAL BREEDING

Profiling gene expression of specific gut epithelial cells obtained by Laser dissection



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Food Quality and Safety

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Project

Immuno-epidemiology, ecology and control of coccidial infections in poultry

Host response and protection

October 2003 - October 2007

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 Utrecht, NL 4-8 June 2007

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Connection with WP4 SABRE

- Gut health and functionality
 - Difference in host cell response due to *Eimeria* infection

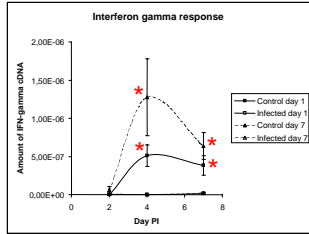
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Previous work

Infection of Chicken with *Eimeria*

- Cellular responses
- Cytokine responses



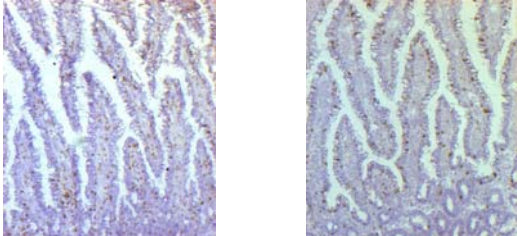
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Histological microenvironments of T-cells



TCR $\alpha\beta$ TCR $\gamma\delta$

Different locations, different roles and cytokine expression.

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Specific cytokine expression

It is not known which cell type mediates which type of cytokine response.

- Laser dissection of specific cells and subsequent RNA analyse.
- Specific training needed

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SABRE and EADGENE Genomics for Animal Health Conference, 5-6 June 2007, Utrecht, NL
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Laser dissection microscope



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Work progress

- Cells isolated from 3 types of microenvironment
 - Tip of villus
 - Middle of villus
 - Crypt region
- RNA was isolated from tissue



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Further work

- RNA amplification
- cDNA transcription
- Real time PCR

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People involved

Juan Garrido	University of Córdoba
Angeles Jimenez	University of Córdoba
Concha Lucena Martinez	University of Córdoba

And everybody in the lab thanks for the hospitality!

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