

Report of the 2nd International  
Workshop in Amsterdam, April  
26-28, 2007

Gut microbiota in health and  
disease

# 1. 16S rDNA screens

- Analysis of genes for 16S rRNA's with phylogenetic microarrays
- HIT-Chip
- Human microbiota is very unique and very stable over time
- Genetic influence

## **2. Many diseases are characterized by a disturbed gut microbiota**

- 16S rDNA screens
- “Are these changes inducing the disease or are they an effect of the disease?”
- Diabetes-prone rats
- Possibility to predict

### 3. Stress affects mucosal barrier

- Chronic stress and early life trauma
- Water avoidance stress
  - Barrier dysfunction
  - Apoptosis of epithelial cells
  - Bacterial adherence and penetration
  - Low grade mucosal inflammation
- Vicious circle
- Probiotics can strengthen the mucosal barrier

## 4. Clinical trials for probiotics in IBS and NE

- Irritable Bowel Syndrome
  - Bifidobacterium infantis
- 3 clinical situations:
  - Lactose intolerance
  - Gastroenteritis
  - Antibiotic-associated diarrhoea
- Necrotizing Enterocolitis

## **5. Multi-centre studies comparing antibiotic treatments with probiotic treatments in patients with urogenital tract infections**

- Antibiotics
  - Against beneficial bacteria
  - Resistance
- Ongoing study
  - Results expected for 2009

## 6. EU rules for probiotics: claims and safety

- „general health claim“
- „reduction of disease risk claim“
- EFSA guidelines
  - Consistency of results
  - Consistency between various populations
  - Biological plausibility
  - Specificity of the effect