Genes in concert

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Genes in concert | a toxicogenomics hymn towards disease prevention

Toxicological research

A world full of potential hazards

Toxicological research

Human studies: the Praegustator

Toxicological research

Animal studies as an alternative for humans

Toxicological research

Cell cultures as alternative to animals as alternative for humans

Toxicogenomics

A revolution initiated by the human genome project

Toxicant

DNA → RNA → Proteins → Metabolites

Elimination

High-throughput techniques

Human gene expression microarrays

Dioxin

BaP

Metabolic
enzymes

Gene expression profiles:

a barcode for potential toxicity

Genes in concert

How to interpret gene expression profiles

Human population studies

Lymphoid leukaemia in children

Chronic lymphocytic leukemia

methylation

miRNA

protein degradation

DNA

RNA

Proteins

Metabolites

Smoking as proof-of-principle

HUMAN VARIATION

A Genetic Perspective on Diversity, Race, and Medicine

Editor
ARAVINDA CHAKRAVARTI

Genetic polymorphisms

Prediction

Prediction

Prediction: the national hymn

Environmental Health studies

Multidisciplinary research

MAASTRICHT CENTRE FOR SYSTEMS BIOLOGY

Science Day 2016

May 17th, 2016

Maastricht - The Netherlands

Prevent readmission
System change integrate change
Treating whole person
Community structure for healthy lifestyle

CHRONIC DISEASE PREVENTION

Self Advocacy
Upstream
Empowering
health equity

Help patients
nutrition education
Improve health healthy lifestyles
be part of the solution
prevent readmission
live well
mobilize change lives
change lifestyles
personal responsibility

prevent chronic disease

supports the

International Agency for Research on Cancer

classification of processed meat as
“carcinogenic to humans.”

Dagblad De Limburger /
Limburgs Dagblad.

Dinsdag, 08 december 2015

Groene thee in de Salami!

Onderzoekers van de Universiteit Maastricht (UM) en collega's in Europa hebben drie jaar gewerkt aan 'veilige' worst, ham en andere vleeswaren zónder extra risico's op darmkanker. Hoogleraar Theo de Kok van de UM geeft een kijkje in de keuken.

PHYTOME

Phytochemicals to reduce
nitrite in meat products

PHYTOME

Phytochemicals to reduce
nitrite in meat products

Physical entity color

Interaction color

- protein interaction (orange line)
- genetic interaction (blue line)
- biochemical reaction (green line)
- gene regulatory interaction (purple line)
- drug-target interaction (red line)

Node label color

black node labels denote seed nodes;
purple node labels denote intermediate nodes

Hide legend

$$1 + 1 = 3$$

A GUIDE TO FOOD SYNERGY

How 2 foods paired together
can increase nutritional benefits

Education

Brightlands

Keep calm |
and acknowledge all musicians in the orchestra