IINC
2010

The 1st Indonesian International Nutrigenomics Conference :

Healthier Life through Nutrition and Epigenome Management

Jakarta, Indonesia 1-4 November 2010

# ABSTRACT and CONFERENCE PROGRAM

IINC 2010

# Schedule
# The 1st Indonesian International Nutrigenomics Conference
# Jakarta, 1-4 November 2010

## Monday, 1 November 2010

| Time | Description |
|---|---|
| 13.00– 16.00 | Welcome reception, Registration and Poster installation |

## Tuesday, 2 November 2010

| Time | Description |
|---|---|
| 07.45 – 08.30 | Registration |
| 08.30 – 08.40 | Opening speech from Rector of Atma Jaya Catholic University of Indonesia |
| 08.40 – 08.45 | Opening speech from Dean of Faculty of Biotechnology, Atma Jaya Catholic University of Indonesia |
| 08.45 – 08.50 | Opening speech from Indonesian Biotechnology Consortium |
| 08.50 – 09.10 | Opening Dance |
| **Session 1** | **Chair: Lynnette Ferguson** |
| 09.10 – 09.55 | Chandrika J. Piyathilake, University of Alabama at Birmingham, USA<br>*"The Cancer Protective Effect of Fruit and Vegetable Intake: Epigenetics Evidence"* |
| 09.55 – 10.10 | Discussion |
| 10.05 – 10.35 | Coffee Break, Booth Exhibitions, and Poster Sessions |
| **Session 2** | **Chair: Emannuel Ramli** |
| 10.35 – 11.20 | Lynnette Ferguson, New Zealand Centre for Research Excellence in Nutrigenomics, New Zealand<br>*"Introduction on Nutrigenomics"* |
| 11.20 – 12.05 | David Cameron-Smith, Deakin University, Australia<br>*"Introduction on Sports Nutrition"* |
| 12.05 – 12.20 | Discussion |
| 12.20 – 13.20 | Lunch, Booth Exhibitions, and Poster Sessions |
| **Session 3** | **Chair: Yanti** |
| 13.20 – 14.05 | Antonius Suwanto, Bogor Agricultural University, Indonesia<br>*"Metagenomic Study of Indonesian Traditional Fermented Food"* |

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| 14.05 – 14.35 | Rieza Aprianto, PT. Nutrifood Indonesia, Indonesia<br>*"Managing Obesity – A Nutrigenetics-Nutrigenomics Approach"* |
| 14.35 – 14.50 | Discussion |
| 14.50 – 15.05 | Company Profile of PT. Nutrifood Indonesia |
| 15.05 – 15.30 | Coffee Break, Booth Exhibitions, and Poster Sessions |
| **Session 4** | **Chair: Yanti** |
| 15.30 – 15.50 | Oral Presentation I<br>Say Yee How, Universiti Tunku Abdul Rahman, Malaysia<br>*"Association of Leptin Receptor Gene (LEPR) K109R, K656N and P1019P Variants with Sweet Food Preference, Intake Frequency and Craving Among Malaysian Subjects"* |
| 15.50 – 16.10 | Oral Presentation II<br>Khie Khiong, Maranatha Christian University, Indonesia<br>*"The Effect of Buah Merah/Red Fruit Oil (Pandanus conoideus Lam.) Towards Proinflammatory Cytokines, TNF-α and IL-1 in Colorectal Cancer (CRC) Mice Model"* |

## Wednesday, 3 November 2010

| Time | Description |
|---|---|
| **Session 1** | **Chair: Chandrika J. Piyathilake** |
| 08.00 – 08.30 | Registration |
| 08.30 – 09.10 | Lynnette Ferguson, New Zealand Centre for Research Excellence in Nutrigenomics, New Zealand<br>*"Role of Probiotics and Epigenetics in Pharmaco- and Nutri-Genomics"* |
| 09.10 – 09.50 | Raymond Tjandrawinata, PT Dexa Medica, Indonesia<br>*"Introduction on Antioxidant in Health and Disease"* |
| 09.50 – 10.05 | Discussion |
| 10.05 – 10.30 | Coffee Break, Booth Exhibitions, and Poster Sessions |
| **Session 2** | **Chair: Antonius Suwanto** |
| 10.30 – 11.10 | David Cameron-Smith, Deakin University, Australia<br>*"Role of Nutrigenomics in Sports Nutrition"* |
| 11.10 – 11.50 | F.G. Winarno, Atma Jaya Catholic University, Indonesia<br>*"Overview of Food for Health and Happiness"* |
| 11.50 – 12.05 | Discussion |
| 12.05 – 13.05 | Lunch, Booth Exhibitions, and Poster Sessions |
| **Session 3** | **Chair: Tresnawati Purwadaria** |
| 13.05 – 13.45 | Raymond Tjandrawinata, PT Dexa Medica, Indonesia<br>*"Antioxidant in Health and Disease: Lycopene Effects in Cardiovascular Diseases"* |

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| 13.45 – 14.00 | Discussion |
| 14.00 – 14.20 | Oral Presentation I<br>Minakshi Bhardwaj, Cardiff University, United Kingdom<br>*"Potential of Nutrigenomics in Health Applications: Experts Perspectives on Ethical, Social and Policy Implications"* |
| 14.15 – 14.45 | Coffee Break, Booth Exhibitions, and Poster Sessions |
| **Session 4** | **Chair: Soegianto Ali** |
| 14.45 – 15.05 | Oral Presentation II<br>Penelope Main, University of South Australia, Australia<br>*"Folate/Methionine Metabolism and Autism"* |
| 15.05 – 15.25 | Oral Presentation III<br>Agussalim Bukhari, Hasanuddin University, Indonesia<br>*"Interleukin-10 Improves Glucose Metabolism by Increasing Expression of Genes Involved in Beta-Oxidation and Mitochondrial Oxphos in The Skeletal Muscle"* |
| 15.25 – 15.45 | Oral Presentation IV<br>Fredy Saudale, Nusa Cendana University, Indonesia<br>*"The Role of Kupffer Cells in High Fat Diet-induced Hepatic Steatosis"* |
| 15.45 – 16.10 | Closing |

## Thursday, 4 November 2010 (Tempeh or Nata de Coco Tour)

| Time | Description |
|---|---|
| Nata de Tour | |
| 05.30 – 06.00 | Point meeting at Yustinus Building 14th floor |
| 06.00 – 11.30 | Site visiting |
| 11.30 – 12.30 | Discussion |
| 12.30 – 13.30 | Lunch |
| 13.30 – 16.00 | Back to Atma Jaya |
| Tempeh Tour | |
| 14.30 – 15.00 | Point meeting at Yustinus Building 14th floor |
| 15.00 – 18.00 | Site visiting |
| 18.00 – 18.30 | Discussion |
| 18.30 – 20.00 | Lunch |
| 20.00 – 20.30 | Back to Atma Jaya |

# Effect Ethanol and Protein Extracts of Soybean Seed and Fractionated Ethyl Acetate of Tempeh Soybean *Detam 1* on Cholesterol and Triglyceride Level in Mice

Meilinah Hidayat, Muchtan Sujatno, Nugraha, Setiawan, and Khie Khiong

*Maranatha Christian University Indonesia*

Soybean is a singular food because of its rich nutrient content. Nutritional intervention studies performed in animals and humans show that dietary soybean has beneficial health effects. Both isoflavones and soybean protein, the major components of a soy diet, have reducing weight effect and lipid profiles although by different unclear mechanisms. In the complex interactions between soy protein and isoflavones in a soy diet, it is difficult to evaluate which component is better in reducing body weight or cholesterol level in blood. Because of the unknown complex interactions in a soy diet, it is difficult to evaluate the biological activity of each component without isolating and studying each compound.

Detam 1 variety is a high quality soybean according to Minister of Agricultural of Indonesia, cultivated in Balitkabi plantation in Malang, contains higher protein level than protein in other soybean variety (45,36 %). In the previous study, we conducted the effect of several extracts of Detam 1 soybean (*Glycine max L.merr*) to Wistar rats. The results are: extract protein of Detam 1 soybean using Deak's method, contains 74,99 % protein rich in Conglycinin but contains no isoflavone at the effective dose 10 mg/bw; ethanol extract of Detam 1 soybean contain isoflavones aglycone, daidzein 2,89%, genistein 0,46% at the effective dose 20 mg/bw and fractionation ethyl acetate of tempeh Detam 1 soybean contain isoflavones aglycone, daidzein 36,3%, genistein 25,6% at the effective dose 20 mg/bw can significantly reduce body weight in male Wistar rats.

The aim of this research is to review which kind of extract has the highest effect for decreasing cholesterol and triglyceride level in Balb-C mice.

The method of this research was comparative, prospective laboratory experimental with complete randomized trial design. Eight week old Balb/c male mice were randomly divided into five groups (n=5). After being given high fat food for a week, three group of mice were given extracts protein of Detam 1, ethanol extract of Detam 1 and fractionation ethyl acetate of tempeh Detam 1 soybean at the dose as in the previous study, the negative control group and the positive control group were given aquadest and sibutramin for 14 days. Cholesterol and triglyceride serum level were examined before and after 14 days treatment using VITROS colorimetric method and the data were analyzed using ANOVA and with post hoc LSD test. The results showed that the cholesterol and triglyceride serum level of the three groups treatment were significantly decreased compared to control negative group. The group that were given ethanol extract has the greatest tendency decrease for cholesterol ($p<=0,001$), while for triglyceride, the group that were given fractionation ethyl acetate of tempeh Detam 1 has the greatest tendency decrease ($p<=0,001$). There is no significant difference between the treatment group and the control positive group.

As conclusion, ethanol extract of Detam 1 has the greatest tendency to decrease cholesterol level and fractionation ethyl acetate of tempeh Detam 1 soybean has the greatest tendency to decrease Triglyceride level in Male Balb-C Mice.