The annual international meeting of AHCC Research Association (ARA), the 22nd International Congress on Nutrition and Integrative Medicine (ICNIM), was held on July 26 and 27 at Ryo ton Sapporo (Hokkaido, Japan) with the support of Hokkaido Bureau, Ministry of Economy, Trade and Industry (METI) in recognition of ARA’s continuous international activities regarding accumulation and utilization of scientific evidences of functional foods. It gathered 349 participants including 113 from 15 countries and regions besides Japan. A keynote lecture, 21 oral presentations (12 basic studies and 9 clinical studies) and 31 poster presentations (21 basic studies and 10 clinical studies), 52 in total, including study results of AHCC, Oligonol, Perilla Extract and ETAS were presented.

Keynote Lecture

Dr. Lakshminarayan Rajaram, Professor of Biostatistics, College of Public Health, University of South Florida, Tampa-Florida, USA gave the keynote lecture entitled “Biostatistics: what is biostatistics and why do we need it in biomedical research?” Biostatistics can be defined as a field of statistics which is specialized in the analysis and interpretation of scientific data obtained from the tests that take place in the field of biology such as life science and public health. In his speech, Professor Rajaram gave a general explanation starting from the concepts of statistics and including theories and analysis methods of statistics in the field of biology.

Research Awards – Best Research Award to Dr. Chantal Matar

“AHCC promotes an intestinal immune response in BALB/c mice and in primary intestinal epithelial cell culture involving Toll-like receptor TLR-2 and TLR-4” of Dr. Chantal Matar from Ottawa University, Canada was selected for the Best Research Award, and Mr. Takutomo Samukawa, director of METI Hokkaido awarded Dr. Matar.

Dr. Hideaki Waki from the Graduate School of Health Science, Teikyo Heisei University, Chiba, Japan received the Young Investigator Award, an award given to the most excellent researcher under 40 years old, for his presentation entitled “Effect of AHCC on natural killer cells under psychological stress” . Dr. Alamelu Sundaresan from Texas Southern University, Houston, Texas, USA won the Best Poster Award with her presentation, “AHCC activates human lymphocytes via phenotypic, genotypic and differentiation changes to an adherent cell type. A possible novel mechanism of activation” These two awards were awarded by Dr. Masuo Hosokawa, president of ARA.

All awardees were honored at the Reception held in the evening of July 26.
General Discussion

The general discussion this year was held as a forum under the title “The Experience of Applying AHCC on Clinical Studies in Japan and Abroad.” In the beginning, the General Manager of Royton Hotel-Sapporo, Mr. Takashi Ohura introduced the concept of “Ishoku-Dougen” which is a way to describe the relation between food and disease prevention from the viewpoint of macrobiotics. Next, Dr. Kenji Hazama, the president of Pharmedico Company, started a panel discussion at which the current conditions of integrative medicine were discussed by doctors who have been using AHCC in their clinics. The panelists were; Dr. Tanemori Kurokawa (National Defence Medical College, Japan), Dr. Yoshiaki Yamada (Jikei Clinic, Japan), Dr. Francisco Karkow (Caxia do Sul, Brazil), Dr. Romulo Jacinto De Villa (Philippine Society of Oncology, The Philippines), and Dr. Massimo Bonucci (San Feliciano Hospital, Italy). Each panelist presented their experience using AHCC. It was agreed that in order to overcome the remaining problems regarding applying integrative medicine in clinical practice, researchers should continue on exchanging their experiences and continue their discussions through ARA about the importance of functional food in the field of integrative medicine. After meaningful opinion exchange, the vigorous discussion ended on a high note.

Executive Meeting

Executive Meeting was held on June 28, 2014. Approved activity report and plans were distributed to members with this Annual Report instead of holding the General Meeting.

The 22nd International Congress on Nutrition and Integrative Medicine (ICNIM 2014)
The 22nd annual symposium of ARA was held on July 26-27, 2014 at Royton Sapporo. Best Research Award, Young Investigator Award, and Best Poster Award were presented at the award ceremony held during the reception on July 26. These awards have been established aiming to encourage research of functional foods such as AHCC by recognizing excellent researchers for their outstanding reports. The selection was implemented according to the Research Award Bylaw of ARA at the selection committee approved by Executive Meeting.

Expense:

Expense of this AHCC Research Association is covered by Amino Up Chemical Co., Ltd. There was a support from METI Hokkaido for ICNIM2014 this year also.

Details:
- Expense of hosting ICNIM (annually, including reception)
- Expense of publications (annually)
- Expense of hosting manager’s meeting (annually)
- Office expense
Publication list

AHCC

  “Effect of Active Hexose-Correlated Compound in Women Receiving Adjuvant Chemotherapy for Breast Cancer: A Retrospective Study”
  Sho Hangai, et al. (Department of Hematology and Oncology, The University of Tokyo Hospital, Bunkyo-ku, Tokyo, Japan.)

• Journal of Dietary Supplements, 10(3): 264-308 (2013)
  “An Evidence-Based Systematic Review of Active Hexose Correlated Compound (AHCC) by the Natural Standard Research Collaboration”
  Catherine Ulbricht, Regina C. Windsor, et al. (Natural Standard Research Collaboration, USA)

  “Disruption of endothelial adherens junction by invasive breast cancer cells is mediated by reactive oxygen species and is attenuated by AHCC.”
  Mehran Haidari, et al. (The University of Texas Health Science Center at Houston, USA)

• Anticancer Research, 34: 141-146 (2014)
  “Active Hexose-correlated Compound Down-regulates HSP27 of Pancreatic Cancer Cells, and Helps the Cytotoxic Effect of Gemeitamine”
  Kazuyuki Nakamura, et al. (Yamaguchi University, Japan)

  “Reduction of Adverse Effects by a Mushroom Product, Active Hexose Correlated Compound (AHCC) in Patients with Advanced Cancer during Chemotherapy-The Significance of the Level of HHV-6 DNA in Saliva as a Surrogate Biomarker during Chemotherapy.”
  Toshinori Ito, et al. (Osaka University, Japan)

• Nitric Oxide, 40(31): 75-86 (2014)
  “Adenosine, a hepato-protective component in active hexose correlated compound: Its identification and iNOS suppression mechanism”
  Yoshito Tanaka, A-Hon Kwon, et al. (Kansai Medical University, Japan)

  “Exercise and oxidative stress in hypoxia”
  Jun-ichi Nagasawa, Hideki Ohno, et al. (Kyorin University, Japan)

• Oligonol

• Cryobiology, 67: 40-49 (2013)
  “Analysis of supercooling activity of tannin-related polyphenol”
  Seizo Fujikawa, et al. (Hokkaido University, Japan)

• British Journal of Nutrition, 110(9): 1549-1558 (2013)
  “Oligomerized lychee fruit-derived polyphenol attenuates cognitive impairment in senescence-accelerated mice and endoplasmic reticulum stress in neuronal cells”
  Takuya Sakurai, Hideki Ohno, et al. (Kyorin University, Japan)

• Antioxidants & Redox Signaling, 19(2): 102-114 (2013)
  “Oligonol Inhibits Dextran Sulfate Sodium-Induced Colitis and Colonic Adenoma Formation in Mice”
  Hye-Won Yum, Young-Soon Surh, et al. (Seoul National University, Korea)

  “Exercise and oxidative stress in hypoxia”
  Jun-ichi Nagasawa, et al. (The University of Electro-communications, Japan)

• Drug Discoveries & Therapeutics, 7(6): 254-260 (2013)
  “Evaluation of antiviral activity of Oligonol, an extract of Litchi chinensis, against betanodavirus”
  Nobuyuki Kobayashi, et al. (Nagasaki University, Japan)

• Regulatory Toxicology and Pharmacology, 68: 240-249 (2014)
  “Toxicological assessment of enzyme-treated asparagus extract in rat acute and subchronic oral toxicity studies and genotoxicity tests”
  Tomohiro Ito, Takahiro Maeda, et al. (Amino Up Chemical Co., Ltd., Japan)

• Journal of Food Science, 79(3): 413-419 (2014)
  “Enzyme-Treated Asparagus Extract Promotes Expression of Heat Shock Protein and Exerts Antistress Effects”
  Tomohiro Ito, A-syu Sato, et al. (Amino Up Chemical Co., Ltd., Japan)

• Natural Product Communications, 9(1): 101-106 (2014)
  “Enzyme-treated Asparagus officinalis Extract Shows Neuroprotective Effects and attenuates Cognitive Impairment in Senescenceaccelerated Mice”
  Takuya Sakurai, Hideki Ohno, et al. (Kyorin University, Japan)

• Regulatory Toxicology and Pharmacology, 68: 240-249 (2014)
  “Toxicological assessment of enzyme-treated asparagus extract in rat acute and subchronic oral toxicity studies and genotoxicity tests”
  Tomohiro Ito, Takahiro Maeda, et al. (Amino Up Chemical Co., Ltd., Japan)

• The Journal of Alternative and Complementary Medicine, 14(173) (2014)
  “Perilla Extract improves gastrointestinal discomfort in a randomized placebo controlled double blind human pilot study”
  Sybille Buchwald-Werner, et al. (Vital Solutions GmbH, Germany)

• Perilla Extract
Conference list

AHCC
- 35th ESPEN Congress (Leipzig, Germany)
  August 31 - September 3, 2013
  “Effect of Bifidus BB536 and Active Hexose Correlated Compound on Immune Function in Healthy Individuals”
  Abeer Chowdhury, Dileep N. Lobo, et al. (University of Nottingham, UK)

- First ISS-ARTOI Conference on Integrative Oncology Fifth ARTOI International Congress (Rome, Italy)
  November 6 - 7, 2013
  “AHCC: Impact on the Immunological System of Patients with Disseminated Neuroendocrine Tumors After Treatment with the Radioisotope preparation (90Y-DOTA-TATE) - An Initial Report”
  Norbert Szalus, et al. (Central Clinical Hospital of Ministry of Interior, Poland)

- ASPEN 2014 (Savannah, USA)
  January 18 - 21, 2014
  “Effects of active hexose correlated compound (AHCC) on survival in a murine peritonitis model and on macrophage function”
  Motonari Ri, Yasuyuki Seto, et al. (The University of Tokyo, Japan)

- The 9th Annual Meeting of Thai Association for the Study of the Liver (Rayong, Thailand)
  February 28, 2014
  “Role of AHCC in Liver disease”
  Jun Nishihira (Hokkaido Information University, Japan)

- 45th Annual Meeting on Women's Cancer (Tampa, USA)
  March 22 - 25, 2014
  “In vitro and in vivo evaluation of Active Hexose Correlated Compound (AHCC) for the Eradication of HPV”
  Judith Smith, et al. (HMD Anderson Cancer Center, USA)

- Experimental Biology Meeting 2014 (San Diego, USA)
  April 26 - 30, 2014
  “Role of Intestinal epithelial cells and involvement of TLRs in immune effects of AHCC”
  Jean-Francois Mallet, Chantal Matar, et al. (University of Ottawa, Canada)

  “Inhibitory Effect of AHCC and GCP on Tumorigenesis of C6 Glioma Cells in Culture Medium and in Rats Mediated by Downregulating CD133 and Nestin Expressions”
  Xiao-Hong Zhang, Hiroshi Nishioka, Hajime Fujii (Amino Up Chemical Co., Ltd., Japan)

- ISNFF 2013 (Taipei, Taiwan)
  November 5 - 9, 2013
  “The combinational use of Oligonol and Meratrim contributes to the body weight management in mice.”
  Takahiro Maeda, Hiroshi Nishioka, et al. (Amino Up Chemical Co., Ltd., Japan)

Oligonol
- Neuroscience 2013 (San Diego, USA)
  November 9 - 13, 2013
  “Protective effects of phytochemicals against memory dysfunction in rats”
  Tomoko Koda, Hideki Imai, et al. (Tokyo Healthcare University, Japan)

ETAS
- 35th ESPEN Congress (Leipzig, Germany)
  August 31 - September 3, 2013
  “Effects of the Enzyme-Treated Asparagus Extract on the Induction of Inducible Nitric Oxide Synthase in Hepatocytes”
  Mikio Nishizawa, et al. (Ritsumeikan University, Japan)

  “Effect of Enzyme-Treated Asparagus (ETAS) on the Stress Response Substance in the Clinical Trial”
  Tatsuya Hisajima, et al. (Teikyo Heisei University, Japan)

- Neuroscience 2013 (San Diego, USA)
  November 9 - 13, 2013
  “Protective effects of phytochemicals against memory dysfunction in rats”
  Tomoko Koda, Hideki Imai, et al. (Tokyo Healthcare University, Japan)