Oral Presentations

Last updated: February 20, 2023

Session 1: Food-related properties of rare Sugars

Miku Miyoshi (Kagawa University/Kagawa Prefectural Industrial Technology Center, Japan)
Effect of rare sugars on soy sauce brewing and related microorganisms

Masaru Ochiai (Kitasato University, Japan)
The influence of fat-carbohydrate content in diet on anti-obesity effects of D-allulose in rats

Saranta Sawettanun (Kagawa University, Japan)
Physicochemical parameters, volatile compounds and organoleptic properties of bread prepared with substituted sucrose with rare sugar D-allulose

Takako Yamada (Matsutani Chemical Industry Co., Ltd., Japan)
Dietary D-allulose reduces body fat accumulation in rats fed medium-chain triglyceride diets

Session 2: Rare sugar production

Wanmeng Mu (Jiangnan University, China)
Engineering D-allulose 3-epimerase from *Clostridium cellulolyticum* for improved thermostability using directed evolution facilitated by a nonenzymatic colorimetric screening assay

Chang-Su Park (Daegu Catholic University, Republic of Korea)
Enzymatic characterization to produce D-allose from D-allulose by a recombinant L-rhamnose isomerase from *Paenibacillus baekrokdamisoli*

Akihide Yoshihara (Kagawa University, Japan)
Production of eights ketoheptoses using transketolase from *Thermus thermophilus* HB8 and D-tagatose 3-epimerase from *Pseudomonas cichorii* ST-24

Kenji Morimoto (Kagawa University, Japan)
Effect of organic germanium on isomerization for monosaccharide

Garry A. Diopol (Industrial Technology Development Institute, Philippines)
Process for producing a high-maltose syrup from rice (*Oryza sativa* L.) bran

Kamaljit Sood (Sainc Energy Limited, UK)
Improved production process for the low-calorie sugar isomaltulose

Qianzhen Dong (Chinese Academy of Sciences, China)
Development of food-grade expression system for preparing D-allulose-3-epimerase

Hiromi Yoshida (Kagawa University, Japan)
X-ray structure of recombinant ribitol dehydrogenase from *Klebsiella oxytoca*

Shigehiro Kamitori (Kagawa University)
X-ray structure of allose-binding protein coded in allose operon

Atsushi Ueda (Nagasaki University, Japan)
Synthesis of 5-thiosucrose from D-allulose and investigation of protecting groups

Toda Stankovic (University of Vienna, Austria)
Synthesis of 3-deoxy-3-fluoro-D-xylulose

Session 3: Rare sugars for medical field

Rikiya Taoka (Kagawa University, Japan)
Growth inhibitory effects of rare sugar D-allose on renal cell carcinoma

Xiaodong Li (Kagawa University, Japan)
The therapeutic effect of D-allose on colitis-associated carcinogenesis

Takahiro Kanda (Kagawa University, Japan)
Antitumor effect of D-allose on glioblastoma cell lines

Asadur Rahman (Kagawa University, Japan)
Antiproliferative effects of D-allose associates with the delayed cell cycle transition in pancreatic ductal adenocarcinoma

Kazuyo Kamitori (Kagawa University, Japan)
Molecular analysis and physiological significance of D-allulose and D-tagatose transport by glucose transporters

Katsuya Yamada (Hirosaki University, Japan)
L-Glucose: another path for cancer cells

Toshihiko Yada (Kansai Electric Power Medical Research Institute, Japan)
D-Allulose activates satiety neurons and inhibits appetite neurons: an outstanding ability to regulate feeding and metabolism.

Yermek Rakhat (Kansai Electric Power Medical Research Institute, Japan)
D-Allulose activates pro-opiomelanocortin neurons in the hypothalamus and cooperates with glucagon-like peptide-1

Yuka Yamashita (Kagawa University, Japan)
D-Allose attenuated RPMCs death induced by high dose of D-glucose via suppressing ER stress-initiated apoptotic signal pathway

Katsuaki Hoshino (Kagawa University, Japan)
Immunomodulatory effects of D-allose on the function of plasmacytoid dendritic cells

Toshihiro Kobayashi (Kagawa University, Japan)
A study on the effect of D-allulose on suppressing postprandial hyperglycemia in patients with type 2 diabetes

Yusaku Iwasaki (Kyoto Prefectural University)
Release of intestinal hormone GLP-1 by D-allulose ameliorates hyperglycemia through gut - vagal afferent nerves - brain axis

Session 4: Physicochemical properties of rare sugars

Kazuhiro Fukada (Kagawa University, Japan)
Hydration behavior of hexoses revisited

Nobutake Tamai (Tokushima University, Japan)
Thermodynamic study on the effect of monosaccharides on phase transitions of phospholipid bilayer membrane

Tomohiko Ishii (Kagawa University, Japan)
Fingerprint of hydrogen bonding network in rare sugar single crystal

Session 5: Various usages of rare sugars

Syed Muniruzzaman (Xavier University of Louisiana, USA)
Evaluation of rare ketohexoses as antiviral compound

Roger A. Laine (Louisiana State University, USA)
Rare sugars as insect control compounds

Verasak Sahachaisaree (Thailand)
Allitol and D-allulose in native *Itea* plant of Thailand, the *Itea riparia*

Susumu Mochizuki (Kagawa University, Japan)
Characteristic analysis of *Itea virginica* transketolase 1 (IvTK1)

Kazuya Akimitsu (Kagawa University, Japan)
Functional analysis of rice phosphoglucose isomerase