

Chiaki Matsukura Ph.D.

Date of Birth: November 9, 1971

Affiliation :

Gene Research Center, Laboratory of Olericulture and Floriculture,
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Academic History

1994 Bachelor in Agricultural Science at Hirosaki University (Japan)
1996 Master in Agricultural Science at Hirosaki University (Japan)
1999 PhD in Agricultural Science, Nagoya University (Japan)

Professional/Scientific Career

1999-2000	Postdoctoral	Fellow of Bioscience Center, Nagoya University (Japan)
2000-2003	Researcher	Zeneca/Syngenta Japan (Japan)
2003-2010	Lecturer	Graduate School of Life and Environmental Sciences, University of Tsukuba (Japan)
2007-2008	Visiting Researcher	Fruit Biology & Pathology Unit, INRA (France)
2010-2015	Associate Professor	Gene Research Center, Faculty of Life and Environmental Sciences University of Tsukuba (Japan)
Since 2015	Professor	Gene Research Center, Faculty of Life and Environmental Sciences, University of Tsukuba (Japan) Deputy director Tsukuba University Bordeaux Office; Visiting Researcher, INRA-Bordeaux Center (France)

Professional Societies :

Japanese Society for Horticultural Science
Japanese Society for Plant Cell and Molecular Biology
The Japanese Society of Plant Physiologist
Japanese Society of Breeding
Japan Solanaceae Consortium

Awards :

2014 Best Poster Presentation Award, Japanese Society for Plant Cell and Molecular Biology
2009 2008 Excellent Paper Award, Japanese Society for Horticultural Science

Functions:

Editor of Plant Biotechnology (2008-2014)
Committee of Japanese Society for Plant Cell and Molecular Biology (2008-2011)
Committee of Japanese Solanaceae Consortium (2008-date)
JSPS Plant Molecular Design Committee (2010-date)
Secretary General of JSPS Plant Molecular Design Committee (2010-2015)

Research Area/Interests

To gain a better understanding of physiological role(s) of carbohydrates and amino acids in fruit quality and development, our research group focuses on starch and GABA metabolism and their use during fruit development of tomato, which represents an ideal plant model for many fruit species. We have also investigated the cross-talk of metabolic regulation of carbon and amino acid and abiotic stress such salinity. Additionally, we are trying to produce high value-added tomato resources with high sugar and/or GABA contents through screening of mutants and generation of transgenic lines. I have authored or co-authored 42 peer reviewed scientific articles/reviews (ISI Web H-Index 14; > 700 citations) and 5 books.

Selected Publications:

† **Corresponding author.** * **These authors contributed equally to this study.**

1. Huang YH, Goto Y, Nonaka S, Fukuda N, Ezura H, **Matsukura C†** (2015) Overexpression of phosphoenolpyruvate carboxykinase gene (*SlPEPCK*) promotes soluble sugar accumulation in fruit and post-germination growth in tomato (*Solanum lycopersicum* L.). *Plant Biotechnology*, 32: 281-289.
2. Huang YX, Yin YG, Sanuki A, Fukuda N, Ezura H, **Matsukura C†** (2015) Phosphoenolpyruvate carboxykinase (PEPCK) deficiency affects the germination, growth and fruit sugar content in tomato (*Solanum lycopersicum* L.). *Plant Physiology and Biochemistry*, 96: 417-425.
3. Goto Y, Nonaka S, Yin YG, Koiwa T, Asamizu E, Ezura H, **Matsukura C†** (2013) Isolation and characterisation of the ADP-glucose pyrophosphorylase small subunit gene (*AgpSI*) promoter in tomato (*Solanum lycopersicum* L.). *Plant Biotechnol*, 30: 279-286.
4. Yin YG, Tominaga T, Iijima Y, Aoki K, Shibata D, Ashihara H, Nishimura S, Ezura H, **Matsukura C†** (2010) Metabolic Alterations in Organic Acids and γ -amino Butyric Acid in Developing Tomato (*Solanum lycopersicum* L.) Fruits. *Plant Cell Physiology*, 51: 1300-1314.
5. Yin YG, Kobayashi Y, Sanuki A, Kondo S, Fukuda N, Ezura H, Sugaya S, **Matsukura C†** (2010) Salinity induces carbohydrate accumulation and sugar-regulated starch biosynthetic genes in tomato (*Solanum lycopersicum* L. cv. Micro-Tom) fruits in ABA- and osmotic stress-independent manner. *J Exp Bot*, 61: 563-574.
6. **Matsukura C**, Aoki K, Fukuda N, Mizoguchi T, Asamizu E, Saito T, Shibata D, Ezura H (2008) Comprehensive resources for tomato functional genomics based on the miniature model tomato Micro-Tom. *Current Genomics*, 9: 436-443.
7. **Matsukura C**, Yamaguchi I, Inamura M, Ban Y, Kobayashi Y, Yin YG, Saito T, Kuwata C, Imanishi S, Nishimura S (2007) Generation of gamma irradiation-induced mutant lines of the miniature tomato (*Solanum lycopersicum* L.) cultivar 'Micro-Tom'. *Plant Biotechnology*, 24: 39-44.
8. **Matsukura C***, Saitoh T*, Hirose T, Ohsugi R, Perata P, Yamaguchi J (2000) Sugar uptake and transport in rice embryo. Expression of companion cell-specific sucrose transporter (*OsSUTI*) induced by sugar and light. *Plant Physiology*, 124: 85-93.
9. **Matsukura C**, Kawai M, Toyofuku K, Barrero RA, Uchimiya H, Yamaguchi J (2000) Transverse vein differentiation associated with gas space formation - Fate of the middle cell layer in leaf sheath development of rice. *Annals of Botany*, 85: 19-27.
10. **Matsukura C**, Itoh S, Nemoto K, Tanimoto E, Yamaguchi J (1998) Promotion of leaf sheath growth by gibberellic acid in a dwarf mutant of rice. *Planta*, 205: 145-152.