

Program for STENSEN III

[20 October Friday](#)

CITIZEN FORUM

17:00-17:15 Opening Ceremony

Opening **Masataka Murakami**

Welcome **Noboru Mizuno**, President of National Institute for Physiological Sciences

Messages from

Japan Salivary Gland Society

Yasunobu Okada, President of Physiological Society of Japan

Angelo Volpi, Science & Technology Attache of Embassy of Italy in Tokyo

Masaru Ishikawa, Dupty Mayor of Okazaki City

17:15-17:40

Opening Lecture: <chair and translation, Konosuke Kumakura>

Alessandro Riva (Cagliari) The work of Fabricius ab Aquapendente (Harvey's Teacher) in the light of the recently restored Tabulae Pictae: its influence in the development of modern anatomy in Europe and in Japan.

17:40-18:40

Lute Concert (sponsored by Institute of Italian Culture, Tokyo)

Terrell Stone (Music Conservatory of Vicenza and Padova, Italy) Lute music from the court of Francis I and Padovan lute music.

18:40-20:00

Get Together and Welcome (Kanpai)

[21 October Saturday](#)

SCIENCE SESSION

O. Opening of Science Session <chair, Shohei Yamashina>

9:00-9:15 Talk-O1

Alessandro Riva (Cagliari) Stensen and early history of glands and exocrine secretion.

A. Diagnostics using saliva and Proteomics of Saliva I. <chair, Massimo Castagnola>

9:15-9:30 Talk-A1 and for Poster-A5

Masataka Murakami (Okazaki), Naoki Shinozuka (Sapporo) Clinical examination using

saliva: Influence of fluid secretion on the concentration of substrate in saliva: How to overcome the problem for *in vivo* application.

9:30-10:00 Talk-A2

Anders Bennick (Toronto) Extraoral functions of salivary proteins.

10:00-10:30 Talk-A3

Josie A. Beeley (Glasgow) Human salivary proteins- A fascinating complex of polymorphic and polyfunctional proteins.

10:30-10:50 short talks for 5-min (w/o discussion) for Poster A1, A2, A3, A4, (A5)

Poster-A1: Tiziana Cabras (Cagliari) A proteomic study of saliva from celiac patients.

Poster-A2: Rosanna Inzitari (Rome) Salivary acidic proline-rich proteins in preterm newborns.

Poster-A3: Tomoya Hayashi (Nantan, Kyoto) Oxidative modification of serum albumin via paracellular route of rat submandibular gland.

Poster-A4: Marco Piludu (Cagliari) A preliminary study on salivary protein expression in diabetic patients.

Poster-A5: Naoki Shinozuka (Sapporo) Clinical examination using saliva: an *in vivo* application to human adults.

10:50-11:15 Coffee Break and Poster viewing

A. Diagnostics using saliva and Proteomics of Saliva II. <chair, Irene Messana>

11:15-11:25 Short explanation for the session

Massimo Castagnola (Rome) How the technique works and how the researcher can take a profit from the MS strategies.

11:25-11:45 Talk-A4

Francisco ML Amado (Aveiro) Salivary glands and saliva composition: a proteomic approach.

11:45-12:05 Talk-A5

Irene Messana (Cagliari) Salivary peptides as potential substrates of type2 transglutaminase.

12:05-12:25 Talk-A6

Massimo Castagnola (Rome) Pre-secretory Post-translational modifications common to different families of human salivary proteins.

12:25-12:45 Talk-A7

Chenjuan Yao (Tokushima) Tissue kallikrein mK13 is a candidate of the processing

enzyme for pro-IL-1 β in the mouse submandibular gland.

12:45-13:10 short talks for 5-min (w/o discussion) for Poster A6-A10

Poster-A6: Rui Vitorino (Aveiro) Protein content comparison of mouse submandibular and parotid salivary glands.

Poster-A7: Chiara Fanali (Rome) Characterization of different proline-rich peptides from pig parotid glands.

Poster-A8: Joanna Anton Monteiro, Massimo Castagnola (Rome) Tyrosine sulfation of Histatin 1. A post-translational modification specific of submandibular glands.

Poster-A9: Hiroko Inoue (Kita-Kyushu) Different roles of salivary mucins in viscosity and spinnbarkeit of human saliva.

Poster-A10: Takahiro Hayasaka, Mitsutoshi Setoh (Okazaki) MALDI based Mass Imaging revealed abnormal distribution of phospholipids in cancer.

13:10-14:00 Lunch and Poster viewing

B. Therapeutics by modulation of salivary gland. <chair, Masaki Shimono>

14:00-14:20 Video-B1 presented by use of DVD

Bruce Baum (Bethesda) Clinical applications of gene transfer to salivary glands.

14:20-14:40 Talk-B2

Takayoshi Sakai (Osaka), Kenneth M Yamada (Bethesda) Morphogenesis and cleft formation of salivary gland epithelia: Exploration of new functional regulators.

14:40-15:05 short talks for 5-min (w/o discussion) for Poster B1, B2, B3, B4, B5

Poster-B1: Naozumi Ishimaru (Tokushima) A novel role of RbAp48 for tissue-specific apoptosis in the salivary glands depending on estrogen deficiency.

Poster-B2: Masatake Asano (Tokyo) Ionomycin inhibit the soluble protein transport between ER and Golgi.

Poster-B3: Wei Muxin (Nanjing) Investigation on the influences of Chinese herbs on salivary secretion in rat submandibular gland.

Poster-B4: Hideaki Kagami (Tokyo) Possible involvement of clusterin in the regeneration process of rat submandibular gland.

Poster-B5: Wei Muxin (Nanjing) Effect of Dan Di Qiong Yu granule on salivary gland of Sjogren syndrome mice.

15:05-15:15 Satellite poster talks for E1, E2

Poster-E1: Tomoko Nashida (Niigata) Relation of proteoglycan to coating amylase into secretory

granules/vesicles.

Poster-E2: Hiroshi Shimomura (Niigata) Activation of cAMP-dependent protein kinase by cGMP in the rat parotid acinar cells.

15:15-15:40 Coffee Break

C. Neural control of salivary secretion in response to environmental change I.

<chair, Ryuji Matsuo>

15:40-16:00 Talk-C1

Kiyotoshi Inenaga (Kokura) Pilocarpine induces salivary secretion and thirst in rats.

16:00-16:20 Talk-C2

Ryuji Matsuo (Okayama) Electrophysiological analysis of the afferent activity from the submandibular salivary gland in the rat.

16:20-16:40 Talk-C3

Xuefei Li (Tokushima) Effects of autonomic denervation and administration of SNI-2011 on the expression of AQPs in the rat salivary gland.

16:40-17:00 Talk-C4

Jörgen Eckström (Göteborg) Neural- and hormonal-induced protein synthesis and mitotic activity and the dependence on NO-generation.

17:00-17:10 short talks for 5-min (w/o discussion) for Poster C1, C2

Poster-C1: Kentaro Ono (Kita-Kyushu) Relationship of chewing-stimulated whole saliva flow rate and salivary gland size in humans.

Poster-C2: Ken'ichi Ishizuka (Niigata) Cardiac-related activity in superior salivatory nucleus neurons in anaesthetized rats.

17:10-17:20 just Break

C. Neural control of salivary secretion in response to environmental change II.

<chair, Jörgen Eckström>

17:20-17:40 Talk-C5

Yoshihiro Mitoh (Okayama) Electrophysiological study on the descending excitatory synaptic inputs to the superior salivatory nucleus in the rat.

17:40-18:00 Talk-C6

David K Ann (Los Angeles) Functions, regulation and mechanisms of action of SUMOylation in salivary cells.

18:00-18:20 Talk-C7

Carleton Phillips (Lubbock, Texas) Deciphering the biological roles of salivary glands: comparative cell biology, molecular genetics, and evolution.

18:20-18:45 short talks for 5-min (w/o discussion) for Poster C3, C4, C5, C6, C7 and C8.

Poster-C3: Akihito Fujii (Okayama) Electrophysiological study of the inhibitory inputs from the forebrain and brainstem to the superior salivatory nucleus in rats.

Poster-C4: Miyuki Kobashi (Okayama) Role of the feeding center for submandibular salivary secretion during feeding behavior in the rat.

Poster-C5: Nina Khosravani (Göteborg) The facial nerve and its influence on the parotid gland.

Poster-C6: Hülay Çevik Aras (Göteborg) Melatonin-evoked protein secretion from the rat parotid gland *in vivo*.

Poster-C7: Hajime Ishibashi (Matsudo) Induction of general anesthesia with propofol increases salivary flow.

Poster-C8: Minoru Matsui (Tokyo) Salivary secretion by MR3-KO mice.

18:45-20:30 Dinner - Japanesque

Display of “Soba” preparation by Japan-No 1 Soba Master, and Tasting.

Display of “Sushi” Cooking and Tasting.

Sake-Tasting

22 October Sunday

D. Structural differentiation and functional expression of salivary gland I.

<chair, Matthew Hoffman>

9:00-9:20 Talk-D1

Yohki Hieda (Osaka) Regulation of epithelial tube formation in developing mouse submandibular gland.

9:20-9:40 Talk-D2

Matthew Hoffman (Bethesda) FGF10 regulates branching morphogenesis during salivary gland development.

9:40-10:00 Talk-D3

Tetsuya Akamatsu (Tokushima) Involvement of a subtilisin-like proprotein convertase, PACE4, in branching morphogenesis and AQP5 expression in the rat embryonic submandibular gland.

10:00-10:30 short talks for 5-min (w/o discussion) for Poster D1 – D6

Poster-D1: Kenichiro Kikuchi (Tokyo) Freeze fracture studies of tight junctions in mouse salivary glands and cultured salivary cell lines.

Poster-D2: Masanori Kashimata (Gifu) Shared or non-overlapping intracellular signaling pathways activated by EGFR or FGFR differentially regulate branching morphogenesis in fetal mouse submandibular glands.

Poster-D3: Yuuichi Kadoya (Sagamihara) Cellular aspect of salivary gland branching morphogenesis.

Poster-D4: Nunuk Purwanti (Tokushima) The expression of cellular markers of duct/acini and side population dynamics in the duct-ligated mouse submandibular gland.

Poster-D5: Shinya Yamamoto, Satoshi Fukumoto (Fukuoka) Role of PDGF in salivary gland morphogenesis.

Poster-D6: Wataru Masuda (Kita-Kyushu) The change of the subcellular localization of CD38 in the rat sublingual gland during saliva secretion.

10:30-11:00 Coffee Break and Poster Viewing

D. Structural differentiation and functional expression of salivary gland II.

<chair, Alessandro Riva>

11:00-11:20 Talk-D4

Arthur Hand (Farmington) Submandibular and sublingual glands in Nkx2-3 mutant mice.

11:20-11:40 Talk-D5

Shoichi Iseki (Kanazawa) A novel mouse protein differentially regulated by androgens in the submandibular and lacrimal glands.

11:40-12:00 Talk-D6

Kenji Mishima (Yokohama) Identification and therapeutic potential of salivary gland side population cells.

12:00-12:25 short talks for 5-min (w/o discussion) for Poster D7- D11

Poster-D7: Osamu Amano (Sakado, Saitama) Heat shock protein 27kDa (Hsp27) regulates differentiation and regeneration of acinar cells of the rat submandibular gland.

Poster-D8: Sachiko Matsuura (Shiojiri, Nagano) Temporary accumulation of glycogen in the epithelial cells during developmental differentiation of the mouse submandibular gland revealed

by the high-pressure freezing/freeze substitution-TEM.

Poster-D9: Miwako Matsuki (Matsudo) Effects of actin-related drugs on exocytosis in parotid acinar cells.

Poster-D10: Sadamitsu Hashimoto (Chiba) Control of paracellular transport and its morphological evidence in perfused rat submandibular gland.

Poster-D11: Atsuko Sato (Fukuoka) Localization of G proteins in the main excretory duct of the rat submandibular gland with special reference to the MED tuft cell and the taste bud type II cell.

12:25-14:00 Group Photograph, Lunch and Poster Viewing
Demonstration of serving Japanese Tea (Ai-ya, Nishio)

E. Functional morphology of secretory granules I. <chair, Hiroshi Sugiya>

14:00-14:20 Talk-E1

Bernard Tandler (Cleveland) Ultrastructure of the ovine parotid gland.

14:20-14:40 Talk-E2

Alessandro Riva (Cagliari) A morphometric study by HRSEM of the secretory responses of human salivary glands stimulated *in vitro* by various secretagogues.

14:40-15:00 Talk-E3

Hiroshi Sugiya, Miwako Matsuki (Matsudo) Expression and function of aquaporin-6 in the rat salivary glands.

15:00-15:20 Talk-E4

David Giovannucci (Tredo, Ohio) Analysis of secretory dynamics in mouse parotid acinar cells reveals multiple pathways for secretory granule fusion.

15:20-15:30 Break

15:30-16:10 short talks for 5-min (w/o discussion) for Poster E3-E10

Poster-E3: Akane Imai (Niigata) Roles of Rab27 and its effectors in isoproterenol-induced amylase release from rat parotid acinar cells.

Poster-E4: Matthew J. Betzenhauser (Rochester) Subtype-specific regulation of inositol (1,4,5)-trisphosphate receptors by protein kinase A

Poster-E5: Tomomi Nemoto (Okazaki) Exocytosis and fluid secretion in exocrine glands studied by two-photon microscopy.

Poster-E6: Akiko Shitara (Ishikari-Tobetsu) Multi-photon imaging of cellular heterogeneity in the

sensitivity of Ca²⁺ responses in rat parotid ducts.

Poster-E7: Raffaella Isola (Cagliari) Morphological changes induced by histatins in *Candida albicans*: A microscopic and submicroscopic comparison.

Poster-E8: Hideaki Tamaki (Sagamihara) Sequential appearance of Golgi proteins during *de novo* formation of the Golgi apparatus in parotid acinar cell.

Poster-E9: Yosuke Tojyo (Ishikari-Tobetsu) Comparison of cluster formation of GFP-IP3 receptors in HSY, a human salivary cell line, and COS-7 cells.

Poster-E10: Konosuke Kumakura (Tokyo) Possible Involvement of Myosin-ATPase in the spatio-temporal regulation of exocytosis in adrenal chromaffin cells.

16:10-17:00 Coffee break and Poster Viewing Session

F. Control for fluid/electrolyte transport via trans-/paracellular routes I.

<chair, Kazuo Hosoi>

17:00-17:20 Talk-F1

James Melvin (Rochester) The ion and fluid secretion mechanism.

17:20-17:40 Talk-F2

R. James Turner (Bethesda) Structural and functional significance of the dimerization of the secretory Na-K-2Cl cotransporter (NKCC1).

17:40-18:00 Talk-F3

Jun Yamazaki (Fukuoka) Localization and function of CLCA in rat submandibular glands.

18:00-18:25 short talks for 5 min on Poster F1-F5

Poster-F1: Yusuke Imai (Otsu) Bond graph expression on an epithelial transport system.

Poster-F2: Martin C Steward (Manchester) A modular approach to computational modelling of epithelial electrolyte transport.

Poster-F3: Varga Gabor (Budapest) Bicarbonate secretion by cultured salivary gland cells

Poster-F4: Chikara Hirono (Hiroshima) Regulation of Cl secretion by muscarinic cholinergic and adrenergic stimulation in acinar cells of rat salivary gland.

Poster-F5: Yoshiro Sohma (Takatsuki) Voltage-dependent transient activity of Na⁺/H⁺ exchanger.

18:25-20:30 Dinner

19:30-20:00 Ryukyu (Okinawa) music with dance “Ei-sah”

23 October Monday

F. Control for fluid/electrolyte transport via trans-/paracellular routes II.

<chair, Martin C Steward>

9:00-9:20 Talk-F4

A E Hill (Cambridge) A feedback control model of fluid transport in salivary gland.

Supplemental Poster is located between Poster F2 and F3.

9:20-9:40 Talk-F5

Anil G Menon (Cincinnati) Evidence for interaction between transcellular and paracellular water transport pathways: signaling between Aquaporin-5 and the tight junction complex in mouse salivary glands.

9:40-10:00 Talk-F6

Junko Yoshigaki (Matsudo) Change of claudin expression in primary cultured parotid acinar cells.

10:00-10:25 short talks for Poster F6 – F10

Poster-F6: Christine Delporte (Brussels) Impaired aquaporin-5 distribution in salivary glands from a Sjögren's syndrome mouse model.

Poster-F7: Mileva R. Karabasil (Tokushima) Molecular and cellular analyses of mutant AQP5 which occurred naturally in Sprague-Dawley rats

Poster-F8: Retsu Mitsui (Matsudo) Regulation of intercellular junctions in polarized salivary cells.

Poster-F9: Tetsuji Nakamoto (Rochester) The use of gene disruptions and isolated, perfused glands to examine mouse submandibular function.

Poster-F10: Yoshiteru Seo (Mibu, Tochigi) Water permeability as measured by NMR in salivary gland cells.

10:25-10:40

Coffee Break

G. Stimulus-Secretion Coupling for starting electrolyte transport I. <chair, Min-Goo Lee>

10:40-11:00 Talk-G1

James Putney (Research Triangle Park) Calcium signaling mechanisms in salivary gland cells and other epithelial cells.

11:00-11:20 Talk-G2

Akihiko Tanimura (Ishikari-Tobetsu) Monitoring IP₃ and Ca²⁺ dynamics in salivary and

other cell lines.

11:20-11:40 Talk-G3

David I Yule (Rochester) Intracellular calcium signaling: mechanistic insight from analysis of distinct signals in parotid and pancreas.

11:40-12:00 Talk-G4

Jason Bruce (Manchester) Regulation of the plasma membrane Ca^{2+} -ATPase in parotid acinar cells.

12:00-12:15 short talks for Poster-G1, G2, G3

Poster-G1: Philip Poronnik (St Lucia, Queensland) Muscarinic receptor mobilization of plasma membrane Ca^{2+} -ATPase in epithelial cells: Role of the NHERF2 PDZ scaffold.

Poster-G2: Jenny Ekberg (St Lucia, Queensland) Regulation of KCNQ2/3 by the ubiquitin ligase Nedd4-2.

Poster-G3: Keitaro Satoh (Matsudo) Secretagogues stimulate phosphorylation of MARCKS in parotid acinar cell.

12:15-13:15 Chainsaw Curving (Parking Area) to Wake up the audience !

12:30-14:00 Lunch and Poster Viewing

G. Stimulus-Secretion Coupling for starting electrolyte transport II.

<chair, James W Putney Jr>

14:00-14:20 Talk-G6

Shumuel Muallem (Dallas) Regulation of TRPC channels by STIM1.

14:20-14:40 Talk-G7

Min-Goo Lee (Seoul) Shank2 as a key regulator of epithelial transport in apical membrane.

14:40-15:00 Talk-G8

David I Cook (Sydney) The regulation of the epithelial Na^+ channels by UTP.

15:00-15:20 Talk-G9

Anuwat Dinudom (Sydney) Signaling pathways regulating Na^+ transport in salivary ducts.

15:20-15:40 short talks for Poster-G4, G5, G6

Poster-G4: Hideyo Yoshida (Takatsuki) Ca^{2+} influx induced by ionomycin under a high $[\text{K}^+]_o$ in rat submandibular acinar cells.

Poster-G5: Ii-Ha Lee (Sydney) Regulation of the epithelial sodium channel by caveolin.

Poster-G6: Xibao Liu (Bethesda) The role of TRP channel in the salivary gland fluid secretion.

15:40-17:00 Poster Viewing and Removing.

17:00-20:00 Poster Awards, Closing and Farewell Party

24 October Tuesday

8:50-20:00 Excursion

8:20- Buses pick up you at South Bus Terminal of Higashi-Okazaki Station and New Grand Hotel

8:40- Start from New Grand Hotel for Toyota Kaikan

9:30-11:30 visit Toyota Factory

12:00-13:00 Taki-san-ji (lunch box) and 1st drop at station for returners

13:00-14:00 Miso Factory

14:30-15:30 Dai-ju-ji Temple or Iga-Hachiman shrine

15:30-17:30 Okazaki Art Museum

17:30-19:30 Final food and drink

19:45 return to Hotel

19:47 train for Toyohashi, 20:19 Toyohashi-Tokyo 21:43