

Curriculum Vitae

Hideyuki Takeuchi, Ph.D.

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EDUCATION

1996-2001	The University of Tokyo, Tokyo, Japan Graduate School of Pharmaceutical Sciences Ph.D. in Pharmacology, March 2001 (Supervisor: Dr. Tatsuro Irimura)
1992-1996	The University of Tokyo, Tokyo, Japan B.S. in Pharmacology, March 1996

PROFESSIONAL EXPERIENCE

2021.4-present	Professor, Department of Biochemistry, University of Shizuoka School of Pharmaceutical Sciences. Shizuoka, Japan.
2017.4-2021.3	Associate Professor, Department of Molecular Biochemistry, Nagoya University Graduate School of Medicine. Nagoya, Japan.
2015.7-2017.3	Associate Research Scientist, Complex Carbohydrate Research Center, The University of Georgia. Athens, Georgia
2008.4-2015.6	Research Assistant Professor, Department of Biochemistry and Cell Biology, Stony Brook University. Stony Brook, New York
2006.4-2008.3	Research Scientist, Department of Biochemistry and Cell Biology, Stony Brook University. Stony Brook, New York (Mentor: Dr. Robert S. Haltiwanger)
2003.4-2009.3	Assistant Professor, Graduate School of Pharmaceutical Sciences, The University of Tokyo. Tokyo, Japan (Adjunct 2006.4-2009.3)
2002.4-2003.3	Postdoctoral Fellow, Graduate School of Pharmaceutical Sciences, The University of Tokyo. Tokyo, Japan
2000.1-2002.3	Research Fellow of the Japan Society for the Promotion of Science, Graduate School of Pharmaceutical Sciences, The University of Tokyo. Tokyo, Japan

HONORS & AWARDS

2018	Daiko Foundation research grant for international academic exchange
2011	Gordon Research Conferences (Glycobiology) achievement award
2006	The Astellas Foundation fellowship for research on metabolic disorders
2000-2002	Grant-in-Aid for JSPS Fellows
1998-1999	The Japan Scholarship Foundation Scholarship for Graduate Students

FUNDING

2022-2023	Research grant from Mizutani Foundation for Glycoscience (PI: Takeuchi. 3,000,000 yen)
2022-2023	Research grant from The Uehara Memorial Foundation (PI: Takeuchi. 5,000,000 yen)
2019-2022	JSPS KAKENHI Grant-in-Aid for Fostering Joint International Research (B) JP19KK0195 (PI: Takeuchi. 14,200,000 yen)
2019	Research grant from The Kato Memorial Trust for Nambyo Research (PI: Takeuchi. 2,000,000 yen)
2019-2021	JSPS KAKENHI Grant-in-Aid for Exploratory Research JP19K22490 (PI: Takeuchi. 5,000,000 yen)
2019-2022	JSPS KAKENHI Grant-in-Aid for Scientific Research (B) JP19H03176 (PI: Takeuchi. 13,400,000 yen)
2019-2022	JSPS KAKENHI Grant-in-Aid for Scientific Research (B) JP19H03416 (PI: Tetsuya Okajima, co-I: Takeuchi. 1,350,000 yen)
2018	Research grant from Aichi Cancer Research Foundation (PI: Takeuchi. 500,000 yen)
2018	Research grant from Kitamura Memorial Fund (PI: Takeuchi. 800,000 yen)
2017-2019	JSPS KAKENHI Grant-in-Aid for Research Activity Start-up JP17H06743 (PI: Takeuchi. 2,100,000 yen)
2017	Research grant from Takeda Science Foundation (PI: Takeuchi. 2,000,000 yen)
2017	Research grant from Daiichi Sankyo Foundation of Life Science (PI: Takeuchi. 2,000,000 yen)
2009-2011	Research grant from Mizutani Foundation for Glycoscience (PI: Takeuchi. \$ 50,000)

EXPERIENCE OF TEACHING

University of Shizuoka

- Biological chemistry for the second-year undergraduate students
- Glycobiology for the third-year undergraduate students
- Biochemistry for graduate students
- Glycoscience for graduate students
- Biochemistry laboratory course for undergraduate students
- Biochemistry laboratory course for graduate students

Nagoya University

- Basic seminar for the first-year undergraduate students
- Cancer Biology for the second-year undergraduate students
- Biochemistry laboratory course for the third-year undergraduate students
- Basic medical seminar for the third-year undergraduate students

The University of Tokyo

- Introduction to Life Sciences for the graduate students
- Basic Bioscience for the third-year undergraduate students
- Biochemistry laboratory course for the third-year undergraduate students

EXPERIENCE OF TRAINING STUDENTS

Graduate Students

<u>Graduate Students</u>	<u>Project</u>
Shota Hata (2024, M.Pharm.)	Glyconeuroscience-driven insight into Parkinson's disease pathogenesis and therapeutic development
Koki Kato (2024, M.Pharm.)	Comprehensive analysis of <i>O</i> -glucose glycan modifications on endogenous NOTCH2 by glycoproteomics and elucidation of their functions
Ayumi Matsumoto (2024, M.Pharm.)	Mechanisms of digestion and absorption of non-human sialic acids for dementia prevention
Yoshiki Wakabayashi (2024, M.Pharm.)	Roles of the sulfated glycolipid sulfatide in influenza virus infection
Hatsune Nakao (2023, M.Pharm.)	Elucidating the mechanisms for digestion and absorption of glycans containing non-human sialic acid that causes cognitive impairment
Bunta Tsukamoto (2023, M.Pharm.)	Functional analysis of glycolipid sulfatide in norovirus infection
Atsuki Kusaka (2022, M.Pharm.)	Performance evaluation of new fluorescence imaging probes of sialidase activity
Takahiro Shindo (2021, M.Pharm.)	Analysis of the action mechanism of novel anti-influenza virus inhibitors
Yusuke Urata (2020, Ph.D.)	Examining roles of <i>XXYLT1</i> in squamous cell carcinoma
Weiwei Wang	Examining roles of Notch <i>O</i> -glycosylation in T-ALL
Yohei Tsukamoto	Mass spectrometric analysis of Notch <i>O</i> -glycosylation
Yukihiro Mita	Examining roles of <i>GXYLT1/2</i> in Notch signaling
Chenyu Ma	Identification of inhibitors of POGLUT1
Katsuaki Usami (2009, Ph.D.)	Examining functions of macrophage C-type lectin in Ebola virus infection
Kentaro Kato (2004, Ph.D.)	Biochemical analysis of polypeptide GalNAc-transferases
Akira Kanoh (2003, Ph.D.)	Examining functions of intestinal mucins in food allergy

Rotation students

<u>Rotation students</u>	<u>Project</u>
Huilin Hao	Establishing POFUT1&POGLUT1 knockout cells by CRISPR/Cas9 technology
Daniel Williamson	Establishing new POGLUT2/3 knockout cells by CRISPR/Cas9 technology
Natasha Perumal	Establishing POFUT1&2 knockout cells by CRISPR/Cas9 technology
Rachel K. Lopilato	Establishing B3GLCT knockout cells by CRISPR/Cas9 technology
Steven J. Berardinelli	Functional analysis of B3GLCT in mammalian Knockout cells
Ao Zhang	Establishing POFUT1&2 knockout cells by CRISPR/Cas9 technology
Kira Schultheiss	Exploring UDP-xylose: glucoside α 3-xylosyltransferases
Catherine Peters	Exploring UDP-xylose: glucoside α 3-xylosyltransferases
Dong-Hyuk Ki	Examining effect of <i>O</i> -glycosylation on Notch ligand binding

Undergraduate students

<u>Undergraduate students</u>	<u>Project</u>
Kazu Koyama (2024, BPharm)	Development of a novel skin care strategy based on the function of sialidase
Yutaka Narimichi (2024, BPharm)	Development of novel sialidase fluorescent imaging probes aimed at improving viral specificity and cellular membrane permeability
Rie Sato (2024, BPharm)	Analysis of the regulatory mechanism of cell proliferation in acute myeloid leukemia AML by NOTCH glycosylation
Shota Kimura (2023, BPharm)	Changes in sialidase activity and its function during the visual critical period in cortical visual cortex
Kobun Konagaya (2023, BPharm)	Elucidating the mechanism of resistance to sialidase inhibitors in mumps virus

	and anti-mumps virus effects of statin drugs
Katsuki Sato (2023, BPharm)	Search for small molecule inhibitors of the protein O-glucosyltransferase 1, POGLUT1, towards controlling the Notch signaling pathway
Kunika Tonooka (2023, BPharm)	Analysis of <i>O</i> -glucose glycosylation sites contributing to ligand binding of NOTCH2
Kosei Fujita (2022, BPharm)	Functional elucidation of sialidase in skeletal muscle and skin
Mizuki Hayashi (2022, BPharm)	Analysis of glycolipid sulfatide-mediated MAPK pathway activation mechanism of influenza virus
Kanako Ogino (2022, BPharm)	Effects of non-human sialic acid molecular species on Alzheimer's disease
Yumi Sakurai (2022, BPharm)	Anti-human parainfluenza virus effect of catechins
Amika Yoshioka (2022, BPharm)	Search for small molecule inhibitors of the xylosyltransferase 1, XXYLT1, towards controlling the Notch signaling pathway
Yuki Abe (2021, BPharm)	Ameliorating effects of food ingredients on neurological disorder in menopause based on glyco-science
Koki Amano (2021, BPharm)	Visualization of the action mechanism of inavir® by fluorescence imaging of viral sialidase activity within influenza A virus-infected cells
Ryo Hirachi (2021, BPharm)	Characterization of enzymatic property of influenza A virus neuraminidase protein produced using a baculovirus protein expression system
Miho Ishizuoka (2021, BPharm)	Search for mumps virus-specific sialidase inhibitors
Ayano Iuchi (2021, BPharm)	Distribution and function of a sialidase isozyme Neu2 in the brain
Chihiro Katsumata (2021, BPharm)	Investigation of dynamics of non-human sialic acid species for the proposal of dementia prevention strategies
Atsuki Uchida	Examining xylosyl-extension of <i>O</i> -glucose glycans in Notch signaling
Yuka Sakuma	Examining the effect of <i>O</i> -glucose glycans on Notch-ligand interaction
Hiroaki Sago	Examining roles of <i>GXYLT1/2</i> in AML
Wataru Saiki (2021, B.S.)	Examining xylosyl-extension of <i>O</i> -glucose glycans in Notch signaling
Joshua Kantharia (2014, B.S.)	Examining regulation of Notch-ligand interaction by glycosylation
Hillary Moss (2012, B.S.)	Examining fringe specificity acting toward <i>Drosophila</i> Notch EGF repeats
Ahmed Rab (2012, B.S.)	Examining elongation of <i>O</i> -glucose glycans on <i>Drosophila</i> Notch

PUBLICATIONS

1. Wang W*, Saiki W*, Tsukamoto Y, Uchiyama S, Kondo Y, Okajima T, and **Takeuchi H.** XXYL1 inhibits NOTCH1 activation in Jurkat cells while promoting cell proliferation.
Nagoya J Med Sci 2025 (ACCEPTED).
2. Takahashi T*, Kurebayashi Y*, Suzuki S, Konagaya K, Narimichi Y, Kobatake E, Fukudome H, Yamaguchi T, Sakai F, Arai T, Kabuki T, Minami A, and **Takeuchi H.** Bovine milk-derived sialylglycopeptide concentrate suppresses mumps virus infection.
J Funct Foods 2025; 124, 106656. (*: Equal contribution).
3. Suzuki S, Mashiko T, Tsukamoto Y, Oya M, Kotani Y, Okawara S, Matsumoto T, Mizue Y, **Takeuchi H.**, Okajima T, and Itoh M. The N-acetylglucosaminyltransferase Radical fringe contributes to defects in JAG1-dependent turnover and signaling of NOTCH3 CADASIL mutants.
J Biol Chem 2024; 300(10): 107787.
4. Takahashi T*, Kurebayashi Y*, Otsubo T, Ikeda K, Konagaya K, Suzuki S, Yamazaki M, Suzuki K, Narimichi Y, Minami A, and **Takeuchi H.** Novel sialidase inhibitors suppress mumps virus replication and infection.
Glycobiology 2024; 34(11): cwae059. (*: Equal contribution)
5. Tsukamoto B*, Kurebayashi Y*, Takahashi T, Abe Y, Ota R, Wakabayashi Y, Nishiie A, Minami A, Suzuki T, and **Takeuchi H.** VP1 of human and murine noroviruses recognizes glycolipid sulfatide via the P domain.
J Biochem 2024; 176(4): 299-312. (*: Equal contribution)
6. Jargalsaikhan B, Muto M, Been Y, Matsumoto S, Okamura E, Takahashi T, Narimichi Y, Kurebayashi Y, **Takeuchi H.**, Shinohara T, Yamamoto R, and Ema M. The Dual-Pseudotyped Lentiviral Vector with VSV-G and Sendai Virus HN Enhances Infection Efficiency through the Synergistic Effect of the Envelope Proteins.
Viruses 2024; 16(6), 827
7. Tsukamoto Y, Tsukamoto N, Saiki W, Tashima Y, Jun-Ichi Furukawa, Yasuhiko Kizuka, Yoshiki Narimatsu, Clausen H, **Takeuchi H.***, and Okajima T. Characterization of galactosyltransferase and sialyltransferase genes mediating the elongation of the extracellular O-GlcNAc glycans.
Biochem Biophys Res Commun 2024 Jun 13; 703 (7): 149610.
8. Amano K*, Kurebayashi Y*, Takahashi T*, Narimichi Y, Otsubo T, Ikeda K, Minami A, and **Takeuchi H.** Visualizing intracellular sialidase activity of influenza A virus neuraminidase using a fluorescence imaging probe.
J Virol Methods 2024; 323: 114838.
9. Hanai R, Matsushita H, Minami A, Abe Y, Tachibana R, Watanabe K, **Takeuchi H.**, and Wakatsuki A. Effects of 10-hydroxy-2-decenoic acid and 10-hydroxydecanoic acid in royal jelly on bone metabolism in ovariectomized rats: a pilot study..
J Clin Med 2023; 12(16): 5309.

10. Anuar AM, Minami A, Matsushita H, Ogino K, Fujita K, Nakao H, Kimura S, Sabaratnam V, Umehara K, Kurebayashi Y, Takahashi T, Kanazawa H, Wakatsuki A, Suzuki T, and **Takeuchi H**. Ameliorating effects of the edible mushroom hericium erinaceus on depressive-like behavior in ovariectomized rats. *Biol Pharm Bull* 2022; 45 (10): 1438-43.
11. Zhang A, Tsukamoto Y, **Takeuchi H**, Nishiwaki K, Tashima Y, and Okajima T. Secretory expression of mammalian Notch tandem epidermal growth factor-like repeats based on increased O-glycosylation. *Anal Biochem* 2022 Nov 1; 656: 114881.
12. Ma C, Tsukamoto Y, and **Takeuchi H**. Generation of properly folded epidermal growth factor-like (EGF) repeats and glycosyltransferases enables in vitro O-glycosylation. *Methods Mol Biol* 2022; 2472: 27-38.
13. Tsukamoto Y, Ogawa M, Yogi K, Tashima Y, **Takeuchi H**, and Okajima T. Glycoproteomics of Notch1 EGF repeat fragments overexpressed with different glycosyltransferases in HEK293T cells reveals insights into O-GlcNAcylation of Notch1. *Glycobiology* 2022 Jun 13; 32 (7): 616-28.
14. Takahashi T*, Kurebayashi Y*, Tani K, Yamazaki M, Mminami A, and **Takeuchi H**. The antiviral effect of catechins on mumps virus infection. *J Funct Foods* 2021; 87: 104817.
15. Piniello B, Lira-Navarrete E, **Takeuchi H**, Takeuchi M, Haltiwanger RS, Hurtado-Guerrero R, and Rovira C. Asparagine tautomerization in glycosyltransferase catalysis. The molecular mechanism of protein O-fucosyltransferase 1. *ACS Catal* 2021; 11: 9926-9932.
16. Barua R, Mizuno K, Tashima Y, Ogawa M, **Takeuchi H**, Taguchi A, and Okajima T. Bioinformatics and functional analyses implicate potential roles for EOGT and L-fringe in pancreatic cancers. *Molecules* 2021 Feb 7; 26 (4): 882.
17. Hashiguchi H, Tsukamoto Y, Ogawa M, Tashima Y, **Takeuchi H**, Nakamura M, Kawashima H, Fujishiro M, and Okajima T. Glycoproteomic analysis identifies cryptdin-related sequence 1 as O-glycosylated protein modified with α 1,2-fucose in the small intestine. *Arch Biochem Biophys* 2020 Nov 30; 695: 108653.
18. Ma C, **Takeuchi H**, Hao H, Yonekawa C, Nakajima K, Nagae M, Okajima T, Haltiwanger RS, and Kizuka Y. Differential labeling of glycoproteins with alkynyl fucose analogs. *Int J Mol Sci* 2020 Aug 20; 21 (17): E6007.
19. Urata Y, Saiki W, Tsukamoto Y, Sago H, Hibi H, Okajima T, and **Takeuchi H**. Xylosyl extension of O-glucose glycans on the extracellular domain of NOTCH1 and NOTCH2 regulates Notch cell surface trafficking. *Cells* 2020 May 14; 9 (5): E1220.

20. Alam SMD, Tsukamoto Y, Ogawa M, Senoo Y, Ikeda K, Tashima Y, **Takeuchi H**, and Okajima T. N-Glycans on EGF domain-specific O-GlcNAc transferase (EOGT) facilitate EOGT maturation and peripheral endoplasmic reticulum localization.
J Biol Chem 2020 May 6; 295 (25): 8560-74.
21. Ogawa M*, Tashima Y*, Sakaguchi Y, **Takeuchi H**, and Okajima T. Contribution of extracellular O-GlcNAc to the stability of folded epidermal growth factor-like domains and Notch1 trafficking.
Biochem Biophys Res Commun 2020 May 21; 526 (1): 184-190. (*: **Equal contribution**)
22. Servián-Morilla E, Cabrera-Serrano M, Johnson K, Pandey A, Ito A, Rivas E, Chamova T, Muelas N, Mongini T, Nafissi S, Claeys KG, Grewal RP, Takeuchi M, Hao H, Bönnemann C, Lopes Abath Neto O, Medne L, Brandsema J, Töpf A, Taneva A, Vilchez JJ, Tournev I, Haltiwanger RS, **Takeuchi H**, Jafar-Nejad H, Straub V, and Paradas C. POGLUT1 biallelic mutations cause myopathy with reduced satellite cells, α -dystroglycan hypoglycosylation and a distinctive radiological pattern.
Acta Neuropathol 2020 Mar; 139 (3): 565-82.
23. Ralser DJ, **Takeuchi H**, Fritz G, Basmanav FB, Effern M, Sivalingam S, El-Shabrawi-Caelen L, Degirmentepe EN, Kocatürk E, Singh M, Booken N, Spierings NMK, Schnabel V, Heineke A, Knuever J, Wolf S, Wehner M, Tronnier M, Leverkus M, Tantcheva-Poór I, Wenzel J, Oji V, Has C, Hölzel M, Frank J, Haltiwanger RS, and Betz RC. Altered Notch signaling in Dowling-Degos disease: Additional mutations in POGLUT1 and further insights into disease pathogenesis.
J Invest Dermatol 2019 Apr; 139: 960-964.
24. **Takeuchi H***, Schneider M*, Williamson DB, Ito A, Takeuchi M, Handford PA, and Haltiwanger RS. Two novel protein O-glycosyltransferases that modify sites distinct from POGLUT1 and affect Notch trafficking and signaling.
Proc Natl Acad Sci USA 2018 Sep 4; 115 (36): E8395-402. (*: **Equal contribution**)
25. Ogawa M, Senoo U, Ikeda K, **Takeuchi H**, and Okajima T. Structural divergence in O-GlcNAc glycans on epidermal growth factor-like repeats of mammalian Notch1.
Molecules 2018 Jul; 23 (7): E1745.
26. **Takeuchi H**, Wong D, Schneider M, Freeze HH, Takeuchi M, Berardinelli SJ, Ito A, Lee H, Nelson SF, and Haltiwanger RS. Variant in human POFUT1 reduces enzymatic activity and likely causes a recessive microcephaly, global developmental delay with cardiac and vascular features.
Glycobiology 2018 May; 28 (5): 276-83. (**Recommended by Faculty of 1000 Prime**)
27. Fujihira H, Usami K, Matsuno K, **Takeuchi H**, Denda-Nagai K, Furukawa JI, Shinohara Y, Takada A, Kawaoka Y, and Irimura T. A critical domain of Ebolavirus envelope glycoprotein determines glycoform and infectivity.
Sci Rep 2018 Apr; 8 (1): 5495.
28. Schneider M, Kumar V, Nordstrom LU, Feng L, **Takeuchi H**, Hao H, Luca VC, Garcia KC, Stanley P, Wu P, and Haltiwanger RS. Inhibition of Delta-induced Notch signaling using fucose analogs.
Nature Chem Biol 2018 Jan; 14 (1): 65-71.

29. Weh E, **Takeuchi H**, Muheisen S, Haltiwanger RS, and Semina EV. Functional characterization of zebrafish orthologs of the human Beta 3-Glucosyltransferase B3GLCT gen mutated in Peters Plus syndrome. *Plos One* 2017 Sep; 12 (9): e0184903.
30. **Takeuchi H***, Yu H*, Hao H, Takeuchi M, Ito A, Li H, and Haltiwanger RS. O-Glycosylation modulates the stability of epidermal growth factor-like repeats and thereby regulates Notch trafficking. *J Biol Chem* 2017 Sep; 292 (38): 15964-73. (*: **Equal contribution**)
31. Sheikh MO, Halmo SM, Patel S, Middleton D, **Takeuchi H**, Schafer CM, West CM, Haltiwanger RS, Avci FY, Moremen KW, and Wells L. Rapid screening of sugar-nucleotide donor specificities of putative glycosyltransferases. *Glycobiology* 2017 Mar; 27 (3): 206-12.
32. Hubmacher D, Schneider M, Berardinelli SJ, **Takeuchi H**, Willard B, Reinhardt DP, Haltiwanger RS, and Apte SS. Unusual life cycle and impact on microfibril assembly of ADAMTS17, a secreted metalloprotease mutated in genetic eye disease. *Sci Rep* 2017 Feb; 7: 41871.
33. Servián-Morilla E*, **Takeuchi H***, Lee TV*, Clarimon J, Mavillard F, Area-Gómez E, Rivas E, Nieto-González JL, Rivero MC, Cabrera-Serrano M, Gómez-Sánchez L, Martínez-López JA, Estrada B, Márquez C, Morgado Y, Suárez-Calvet X, Pita G, Bigot A, Gallardo E, Fernández-Chacón R, Hirano M, Haltiwanger RS, Jafar-Nejad H, Paradas C. A POGLUT1 mutation causes a muscular dystrophy with reduced Notch signaling and satellite cell loss. *EMBO Mol Med* 2016 Nov; 8 (11): 1289-1309. (*: **Equal contribution**)
34. Yu H*, **Takeuchi H***, Takeuchi M, Kantharia J, Haltiwanger RS[#], and Li H[#]. Structural analysis of Notch-regulating Rumi reveals basis for pathogenic mutations. *Nature Chem Biol* 2016 Sep; 12 (9): 735-40. (*: **Equal contribution**, [#]: Co-corresponding author)
35. Benz BA, Nandadasa S, Takeuchi M, Grady RC, **Takeuchi H**, LoPilato RK, Kakuda S, Somerville RPT, Apte SS, Haltiwanger RS[#], and Holdener BC[#]. Genetic and biochemical evidence that gastrulation defects in Pofut2 mutants result from defects in ADAMTS9 secretion. *Dev Biol* 2016 Aug; 416 (1): 111-22. ([#]: Co-corresponding author)
36. Valero-Gonzalez J*, Leonhard-Melief C*, Lira-Navarrete E, Jimenez-Oses G, Hernandez-Ruiz C, Pallares CP, Yruela I, Vasudevan D, Lostao A, Corzana F, **Takeuchi H**, Haltiwanger RS, and Hurtado-Gerrero R. A proactive role of water molecules in acceptor recognition by Protein-O-fucosyltransferase 2. *Nature Chem Biol* 2016 Apr; 12 (4): 240-6. (*: **Equal contribution**)
37. Yu H, Takeuchi M, Kantharia J, LeBarron J, London E, Bakker H, Haltiwanger RS, Li H[#], and **Takeuchi H[#]**. Notch-modifying xylosyltransferase structures support an SNi-like retaining mechanism. *Nature Chem Biol* 2015 Nov; 11 (11): 847-54. ([#]: **Co-corresponding author**)
38. Vasudevan D, **Takeuchi H**, Johar SS, Majerus E, and Haltiwanger RS. Peters plus syndrome mutations disrupt a non-canonical ER quality control mechanism. *Curr Biol* 2015 Feb; 25 (3): 286-95.

39. Taylor P*, **Takeuchi H***, Sheppard D*, Chandramouli C, Lea SM, Haltiwanger RS, and Handford PA. Fringe-mediated extension of *O*-linked fucose in the ligand-binding region of Notch1 increases binding to mammalian Notch ligands.
Proc Natl Acad Sci USA 2014 May; 111 (20): 7290-5. (*: Equal contribution)
40. **Takeuchi H** and Haltiwanger RS. Enzymatic analysis of the protein *O*-glycosyltransferase, Rumi, acting toward epidermal growth factor-like (EGF) repeats.
Methods Mol Biol 2013; 1022: 119-28.
41. **Takeuchi H**, Kantharia J, Sethi, MK, Bakker H, and Haltiwanger RS. Site-specific *O*-glucosylation of the epidermal growth factor-like (EGF) repeats of Notch: efficiency of glycosylation is affected by proper folding and amino acid sequence of individual EGF repeats.
J Biol Chem 2012 Oct; 287 (41): 33934-44.
42. Tamada Y, **Takeuchi H**, Suzuki N, Aoki D, and Irimura T. Cell surface expression of hyaluronan on human ovarian cancer cells inversely correlates with their adhesion to peritoneal mesothelial cells.
Tumor Biol 2012 Aug; 33 (4): 1215-22.
43. Sethi, MK, Buettner FFR, Ashikov A, Krylov VB, **Takeuchi H**, Nifantiev NE, Haltiwanger RS, Gerardy-Schahn R, and Bakker H. Molecular cloning of a xylosyltransferase that transfers the second xylose to *O*-glucosylated epidermal growth factor repeats of Notch.
J Biol Chem 2012 Jan; 287 (4): 2739-48.
44. **Takeuchi H**, Fernández-Valdivia RC, Caswell DS, Nita-Lazar A, Rana NA, Macnaughtan MA, Jafar-Nejad H, and Haltiwanger RS. Rumi functions as both a protein *O*-glucosyltransferase and a protein *O*-xylosyltransferase.
Proc Natl Acad Sci USA 2011 Oct; 108 (40): 16600-5.
45. Rana NA*, Nita-Lazar A*, **Takeuchi H**, Kakuda S, Luther KB, and Haltiwanger RS. *O*-Glucose trisaccharide is present at high but variable stoichiometry at multiple sites on mouse Notch1.
J Biol Chem 2011 Sep; 286 (36): 31623-37. (*: Equal contribution)
46. Fernández-Valdivia RC, **Takeuchi H**, Samarghandi A, Lopez M, Leonardi J, Haltiwanger RS, and Jafar-Nejad H. Regulation of mammalian Notch signaling and embryonic development by the protein *O*-glucosyltransferase Rumi.
Development 2011 May; 138 (10): 1925-34.
47. Du J, **Takeuchi H**, Leonhard-Melief C, Shroyer KR, Dlugosz M, Haltiwanger RS, and Holdener BC. *O*-fucosylation of thrombospondin type 1 repeats restricts epithelial to mesenchymal transition (EMT) and maintains epiblast pluripotency during mouse gastrulation.
Dev Biol 2010 Oct; 346 (1): 25-38.
48. Kato K, **Takeuchi H**, Kanoh A, Miyahara N, Nemoto-Sasaki Y, Morimoto-Tomita M, Matsubara A, Ohashi Y, Waki M, Usami K, Mandel U, Clausen H, Higashi N, and Irimura T. Loss of UDP-GALNAc: polypeptide N-acetylgalactosaminyltransferase 3 and reduce *O*-glycosylation in colon carcinoma cells

selected for hepatic metastasis.

Glycoconj J 2010 Feb; 27 (2): 267-76.

49. Sethi MK, Buettner FF, Krylov VB, **Takeuchi H**, Nifantiev NE, Haltiwanger RS, Gerardy-Schahn R, and Bakker H. Identification of glycosyltransferase 8 family members as xylosyltransferases acting on O-glucosylated notch epidermal growth factor repeats.
J Biol Chem 2010 Jan; 285 (3): 1582-6.
50. Fang J, Izawa R, Gomez-Santos L, Ueno S, Sawaguchi T, Usami K, Nodera Y, **Takeuchi H**, Ohashi Y, Higashi N, and Irimura T. Potentiation of proliferation of some but not all human colon carcinoma cell lines by immobilized hepatic asialoglycoprotein receptor 1.
Oncology Res 2009; 17 (10): 437-45.
51. Ishikawa HO, **Takeuchi H**, Haltiwanger RS, and Irvine KD. Four-jointed is a Golgi kinase that phosphorylates a subset of cadherin domains.
Science 2008 Jul; 321 (5887): 401-4. **(Recommended by Faculty of 1000)**
52. Kato K, **Takeuchi H**, Ohki T, Waki M, Usami K, Hassan H, Clausen H, and Irimura T. A lectin recognizes differential arrangements of O-glycans on mucin repeats.
Biochem Biophys Res Commun 2008 Jul; 371 (4): 698-701.
53. Acar M*, Jafar-Nejad H*, **Takeuchi H***, Rajan A, Ibrani D, Rana NA, Pan H, Haltiwanger RS, and Bellen H. Rumi, a CAP10 domain protein, is a glycosyltransferase that modifies Notch and is required for Notch signaling.
Cell 2008 Jan; 132 (2): 247-58. **(*: Equal contribution, Previewed in Cell 2008 132(2): 177-9, Highlighted in Functional Glycomics (14 Feb 2008), Recommended by Faculty of 1000)**
54. Kanoh A*, **Takeuchi H***, Kato K, Waki M, Usami K, and Irimura T. Interleukin-4 induces specific pp-GalNAc-T expression and alterations in mucin O-glycosylation in colonic epithelial cells.
Biochim Biophys Acta 2008 Mar; 1780 (3): 577-584. **(*: Equal contribution)**
55. Xu A, Haines N, Dlugosz M, Rana NA, **Takeuchi H**, Haltiwanger RS, and Irvine KD. In vitro reconstitution of the modulation of Drosophila notch-ligand binding by fringe.
J Biol Chem 2007 Nov; 282 (48): 35153-62.
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INVITED PRESENTATIONS

1. Gordon Research Conference (Notch signaling). Maine. 2024 July.
2. The 46th Annual Meeting of the Molecular Biology Society of Japan. Kobe. 2023 December.
3. The Annual Meeting of the Society for Glycobiology. Hawaii. 2023 November.
4. The 96th Annual Meeting of the Japanese Biochemical Society. Fukuoka. 2023 November.
5. The 18th Chubu Glycoscience Forum for Young Investigators. Nagoya. 2023 January.
6. The 18th Symposium of Japan Consortium for Glycobiology and Glycotechnology. Tokyo (Online). 2021 December.
7. The 44th Annual Meeting of the Molecular Biology Society of Japan. Yokohama (Online). 2021 December.
8. The 94th Annual Meeting of the Japanese Biochemical Society. Yokohama (Online). 2021 November.
9. The 92nd Annual Meeting of the Japanese Biochemical Society. Yokohama. 2019 September.
10. The 5th Annual Meeting of the Japan Muscle Society. Tokyo. 2019 August.
11. The 41st Annual Meeting of the Molecular Biology Society of Japan. Japan. 2018 November.
12. The Annual Meeting of the Society for Glycobiology. New Orleans. 2018 November.
13. Benzon Foundation Symposium #64. Copenhagen. 2018 August.
14. ConBio2017. Japan. 2017 December.
15. BMB2015. Japan. 2015 December.
16. Chiba University. Japan. 2015 November.
17. Gordon Research Conference (Glycobiology). Italy. 2011 May.
18. GCOE Seminar. The University of Tokyo. Japan. 2011 March.
19. The Notch meeting. Greece. 2009 September.
20. Gordon Research Conference (Glycobiology). Ventura. 2009 January.
21. Annual Meeting of the Society for Glycobiology. Boston. 2007 November.
22. Annual Conference of the Japanese Electrophoresis Society. Japan. 2001 November.

PRESENTATIONS AT THE INTERNATIONAL CONFERENCES

1. **Takeuchi H**, Urata Y, Tsukamoto Y, Saiki W, Senoo Y, Ma C, Wang W, Aoki K, Tiemeyer M, and Okajima T. Significance of structurally diverse elongation of O-glucose glycans on Notch1 and Notch2. *Annual Conference of the Society for Glycobiology Glycobiology* 2019 Nov. Abstract number 164.
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