

[2018]

Komori H, Golden KL, Kobayashi T, Kageyama R Lee CY. (2018)

Multilayered gene control drives timely exit from the stem cell state in uncommitted progenitors during Drosophila asymmetric neural stem cell division.

[Genes Dev. doi: 10.1101/gad.320333.118.](#)

Ando M, Goto M, Hojo M, Kita A, Kitagawa M, Ohtsuka T, Kageyama R, Miyamoto S. (2018)
The proneural bHLH genes Mash1, Math3 and NeuroD are required for pituitary development.

[J Mol Endocrinol. doi:10.1530/JME-18-0090.](#)

Kageyama R, Shimojo H, Ohtsuka T. (2018)

Dynamic control of neural stem cells by bHLH factors.

[Neurosci Res. doi:10.1016/j.neures.2018.09.005.](#)

Kageyama R, Shimojo H, Isomura A. (2018)

Oscillatory Control of Notch Signaling in Development.

[Adv Exp Med Biol. \(1066\) 265-277](#)

Santorelli M, Perna D, Isomura A, Garzilli I, Annunziata F, Postiglione L, Tumaini B, Kageyama R, di Bernardo D. (2018)

Reconstitution of an Ultradian Oscillator in Mammalian Cells by a Synthetic Biology Approach.

[ACS Synth Biol. 7\(5\) 1447-1455](#)

Isomura A, Kageyama R. (2018)

An Optogenetic Method to Control and Analyze Gene Expression Patterns in Cell-to-cell Interactions.

[J Vis Exp. \(133\) doi: 10.3791/57149](#)

Perron A, Nishikawa Y, Iwata J, Shimojo H, Takaya J, Kobayashi K, Imayoshi I, Mbenza NM, Takenoya M, Kageyama R, Kodama Y, Uesugi M. (2018)

Small-molecule screening yields a compound that inhibits the cancer-associated transcription factor Hes1 via the PHB2 chaperone.

[J Biol Chem.293\(21\) 8285-8294](#)

Matsumiya M, Tomita T, Yoshioka-Kobayashi K, Isomura A, Kageyama R. (2018)

ES cell-derived presomitic mesoderm-like tissues for analysis of synchronized oscillations in the segmentation clock.

[Development.145\(4\), dev.156836](#)

[2017]

Isomura A, Kageyama R.(2017)

Illuminating information transfer in signaling dynamics by optogenetics.

[Curr Opin Cell Biol.49, 9-15](#)

Isomura A, Kori H, Kageyama R.(2017)

Segmentation Genes Enter an Excited State.

[Dev Cell.43\(2\), 121-123](#)

Bansod S, Kageyama R, Ohtsuka T.(2017)

Hes5 regulates the transition timing of neurogenesis and gliogenesis in mammalian neocortical development.

[Development.144\(17\), 3156-3167](#)

Kawaguchi K, Kageyama R, Sano M.(2017)

Topological defects control collective dynamics in neural progenitor cell cultures.

[Nature.545\(7654\), 327-331](#)

Isomura A, Ogushi F, Kori H, Kageyama R.(2017)

Optogenetic perturbation and bioluminescence imaging to analyze cell-to-cell transfer of oscillatory information.

[Genes Dev.31\(5\), 524-535](#)

Souilhol C, Lendinez JG, Rybtsov S, Murphy F, Wilson H, Hills D, Batsivari A, Binagui-Casas A, McGarvey AC, MacDonald HR, Kageyama R, Siebel C, Zhao S, Medvinsky A.(2016)

Developing HSCs become Notch independent by the end of maturation in the AGM region.

[Blood.128\(12\), 1567-1577](#)

[2016]

Shimojo H, Kageyama R.(2016)

Making Waves toward the Shore by Synchronicity.

[Dev Cell.36\(4\), 358-9\(Preview\)](#)

Shimojo H, Kageyama R.(2016)
Oscillatory control of Delta-like1 in somitogenesis and neurogenesis: A unified model for different oscillatory dynamics.
[Semin Cell Dev Biol.49, 76-82](#)(Review)

Shimojo H, Isomura A, Ohtsuka T, Kori H, Miyachi H, Kageyama R.(2016)
Oscillatory control of Delta-like1 in cell interactions regulates dynamic gene expression and tissue morphogenesis.
[Genes Dev. 30\(1\), 102-16](#)

[2015]

Imai Y, Kobayashi Y, Inoshita T, Meng H, Arano T, Uemura K, Asano T, Yoshimi K, Zhang CL, Matsumoto G, Ohtsuka T, Kageyama R, Kiyonari H, Shioi G, Nukina N, Hattori N, Takahashi R.(2015)
The Parkinson's Disease-Associated Protein Kinase LRRK2 Modulates Notch Signaling through the Endosomal Pathway.
[PLoS Genet.11\(9\), e1005503](#)

Goto M, Hojo M, Ando M, Kita A, Kitagawa M, Ohtsuka T, Kageyama R, Miyamoto S.(2015)
Hes1 and Hes5 are required for differentiation of pituicytes and formation of the neurohypophysis in pituitary development.
[Brain Res.1625, 206-17](#)

Imayoshi I, Ishidate F, Kageyama R.(2015)
Real-time imaging of bHLH transcription factors reveals their dynamic control in the multipotency and fate choice of neural stem cells.
[Front Cell Neurosci.9 , 288](#)(Review)

Tateya T, Sakamoto S, Imayoshi I, Kageyama R.(2015)
In vivo overactivation of the Notch signaling pathway in the developing cochlear epithelium.
[Hear Res.327,,209-17](#)

Watanabe N, Kageyama R, Ohtsuka T.(2015)
Hbp1 regulates the timing of neuronal differentiation during cortical development by controlling cell cycle progression.
[Development142\(13\),2278-90](#)

Nakano Y, Negishi N, Gocho S, Mine T, Sakurai Y, Yazawa M, Abe K, Yagita H, Habu S, Kageyama R, Kawaguchi Y, Hozumi K.(2015)
Disappearance of centroacinar cells in the Notch ligand-deficient pancreas.
[Genes Cells.20\(6\), 500-11](#)

Kobayashi T, Iwamoto Y, Takashima K, Isomura A, Kosodo Y, Kawakami K, Nishioka T, Kaibuchi K, Kageyama R.(2015)
Deubiquitinating enzymes regulate Hes1 stability and neuronal differentiation.
[FEBS J.282\(13\), 2411-23](#)

Schnell SA, Ambesi-Impiombato A, Sanchez-Martin M, Belver L, Xu L, Qin Y, Kageyama R, Ferrando AA.(2015)
Therapeutic targeting of HES1 transcriptional programs in T-ALL.
[Blood. 125\(18\), 2806-14](#)

Sugita S, Hosaka Y, Okada K, Mori D, Yano F, Kobayashi H, Taniguchi Y, Mori Y, Okuma T, Chang SH, Kawata M, Taketomi S, Chikuda H, Akiyama H, Kageyama R, Chung UI, Tanaka S, Kawaguchi H, Ohba S, Saito T.(2015)
Transcription factor Hes1 modulates osteoarthritis development in cooperation with calcium/calmodulin-dependent protein kinase 2.
[Proc Natl Acad Sci U S A. 112\(10\), 3080-5](#)

Hosokawa S, Furuyama K, Horiguchi M, Aoyama Y, Tsuboi K, Sakikubo M, Goto T, Hirata K, Tanabe W, Nakano Y, Akiyama H, Kageyama R, Uemoto S, Kawaguchi Y.(2015)
Impact of Sox9 Dosage and Hes1-mediated Notch Signaling in Controlling the Plasticity of Adult Pancreatic Duct Cells in Mice.
[Sci Rep. 5, 8518](#)

[2014]
Isomura A, Kageyama R.(2014)
Ultradian oscillations and pulses: coordinating cellular responses and cell fate decisions.
[Development. 141\(19\), 3627-36](#)(Review)

Kobayashi T, Kageyama R.(2014)
Expression dynamics and functions of Hes factors in development and diseases.
[Curr Top Dev Biol. 110, 263-83](#)(Review)

Imayoshi I, Kageyama R.(2014)
Oscillatory control of bHLH factors in neural progenitors.
[Trends Neurosci. 37\(10\), 531-8](#)(Review)

Kato T, Sakata-Yanagimoto M, Nishikii H, Ueno M, Miyake Y, Yokoyama Y, Asabe Y, Kamada Y, Muto H, Obara N, Suzukawa K, Hasegawa Y, Kitabayashi I, Uchida K, Hirao A, Yagita H, Kageyama R, Chiba S.(2014)
Hes1 suppresses acute myeloid leukemia development through FLT3 repression.
[Leukemia.29\(3\),576-85](#)

Shimojo H, Harima Y, Kageyama R.(2014)
Visualization of Notch signaling oscillation in cells and tissues.
[Methods Mol Biol.1187,169-79](#)(Review)

Sakamoto M, Kageyama R, Imayoshi I.(2014)
The functional significance of newly born neurons integrated into olfactory bulb circuits.
[Front Neurosci.8, 121](#)(Review)

Harima Y, Imayoshi I, Shimojo H, Kobayashi T, Kageyama R.(2014)
The roles and mechanism of ultradian oscillatory expression of the mouse Hes genes.
[Semin Cell Dev Biol.\(34\), 85-90](#)(Review)

Kageyama R, Shimojo H, Imayoshi I.(2014)
Dynamic expression and roles of Hes factors in neural development.
[Cell Tissue Res.359\(1\), 125-33](#)(Review)

Sakamoto M, Ieki N, Miyoshi G, Mochimaru D, Miyachi H, Imura T, Yamaguchi M, Fishell G, Mori K, Kageyama R, Imayoshi I.(2014)
Continuous postnatal neurogenesis contributes to formation of the olfactory bulb neural circuits and flexible olfactory associative learning.
[J Neurosci. 34\(17\), 5788-99](#)

Hatakeyama J, Wakamatsu Y, Nagafuchi A, Kageyama R, Shigemoto R, Shimamura K.(2014)
Cadherin-based adhesions in the apical endfoot are required for active Notch signaling to control neurogenesis in vertebrates.
[Development. 141\(8\), 1671-82](#)

Imayoshi I, Kageyama R.(2014)
bHLH Factors in Self-Renewal, Multipotency, and Fate Choice of Neural Progenitor Cells.
[Neuron. 82\(1\), 9-23](#)(Review)

[2013]

Imayoshi I, Isomura A, Harima Y, Kawaguchi K, Kori H, Miyachi H, Fujiwara T, Ishidate F, Kageyama R.(2013)
Oscillatory Control of Factors Determining Multipotency and Fate in Mouse Neural Progenitors.
[Science. 342\(6163\), 1203-8](#)
[プレスリリース] [ライフサイエンス新着論文レビュー]

Mochizuki Y, Iida A, Lyons E, Kageyama R, Nakauchi H, Murakami A, Watanabe S.(2013)
Use of cell type-specific transcriptome to identify genes specifically involved in Muller glia differentiation during retinal development.
[Dev Neurobiol. 74\(4\), 426-37](#)

Tateya T, Imayoshi I, Tateya I, Hamaguchi K, Torii H, Ito J, Kageyama R.(2013)
Hedgehog signaling regulates prosensory cell properties during the basal-to-apical wave of hair cell differentiation in the mammalian cochlea.
[Development. 140, 3848-3857](#)

Sparrow DB, Faqeih EA, Sallout B, Alswaid A, Ababneh F, Al-Sayed M, Rukban H, Eyaid WM, Kageyama R, Ellard S, Turnpenny PD, Dunwoodie SL.(2013)
Mutation of HES7 in a large extended family with spondylocostal dysostosis and dextrocardia with situs inversus.
[Am J Med Genet A. 161\(9\), 2244-2249](#)

Kitagawa M, Hojo M, Imayoshi I, Goto M, Ando M, Ohtsuka T, Kageyama R, Miyamoto S.(2013)

Hes1 and Hes5 regulate vascular remodeling and arterial specification of endothelial cells in brain vascular development.

[Mech Dev. 130\(9-10\), 458-466](#)

Harima Y, Kageyama R.(2013)
Oscillatory links of Fgf signaling and Hes7 in the segmentation clock.
[Curr Opin Genet Dev. 23\(4\), 484-490](#) (Review)

Jacob J, Kong J, Moore S, Milton C, Sasai N, Gonzalez-Quevedo R, Terriente J, Imayoshi I, Kageyama R, Wilkinson DG, Novitch BG, Briscoe J.(2013)
Retinoid Acid Specifies Neuronal Identity through Graded Expression of Ascl1
[Curr Biol. 23\(5\), 412-8](#)

González A, Manosalva I, Liu T, Kageyama R.(2013)
Control of Hes7 Expression by Tbx6, the Wnt Pathway and the Chemical Gsk3 Inhibitor LiCl in the Mouse Segmentation Clock.
[PLoS ONE 8\(1\): e53323.doi:10.1371/journal.pone.0053323](#)

Nakashima N, Ishii TM, Bessho Y, Kageyama R, Ohmori H.(2013)
Hyperpolarisation-activated cyclic nucleotide-gated channels regulate the spontaneous firing rate of olfactory receptor neurons and affect glomerular formation in mice.
[J Physiol. 591, 1749-1769.](#)

Ninomiya S, Esumi S, Ohta K, Fukuda T, Ito T, Imayoshi I, Kageyama R, Ikeda T, Itohara S, Tamamaki N.(2013)
Amygdala kindling induces nestin expression in the leptomeninges of the neocortex.
[Neurosci Res. 75\(2\), 121-129](#)

Manosalva I, González A, Kageyama R.(2013)
Hes1 in the somatic cells of the murine ovary is necessary for oocyte survival and maturation.
[Dev Biol. 375\(2\), 140-151](#)

Guiu J, Shimizu R, D'Altri T, Fraser ST, Hatakeyama J, Bresnick EH, Kageyama R, Dzierzak E, Yamamoto M, Espinosa L, Bigas A.(2013)
Hes repressors are essential regulators of hematopoietic stem cell development downstream of Notch signaling.
[J Exp Med. 210, 71-84](#)

Harima Y, Takashima Y, Ueda Y, Ohtsuka T, Kageyama R.(2013)
Accelerating the tempo of the segmentation clock by reducing the number of introns in the hes7 gene.
[Cell Rep. 3, 1-7](#)

Nakanishi Y, Seno H, Fukuoka A, Ueo T, Yamaga Y, Maruno T, Nakanishi N, Kanda K,

Komekado H, Kawada M, Isomura A, Kawada K, Sakai Y, Yanagita M, Kageyama R, Kawaguchi Y, Taketo MM, Yonehara S, Chiba T.(2013)
Dclk1 distinguishes between tumor and normal stem cells in the intestine.
[Nat Genet. 45, 98-103](#)

[2012]

Tan, S.-L., Ohtsuka, T., González, A., and Kageyama, R. (2012)
MicroRNA9 regulates neural stem cell differentiation by controlling Hes1 expression dynamics in the developing brain.
[Genes to Cells 17, doi: 10.1111/gtc.12009](#)

Tan, S.-L., Nishi, M., Ohtsuka, T., Matsui, T., Takemoto, K., Kamio-Miura, A., Aburatani, H., Shinkai, Y., Kageyama, R.(2012)
Essential roles of the histone methyltransferase ESET in the epigenetic control of neural progenitor cells during development.
[Development 139, 3806-3816.](#)

Kageyama, R., Niwa, Y., Isomura, A., González, A., and Harima, Y. (2012)
Oscillatory gene expression and somitogenesis.
[WIREs Dev Biol 1, doi: 10.1002/wdev.46](#) (Review)

Ueno, T., Ito, J., Hoshikawa, S., Ohori, Y., Fujiwara, S., Yamamoto, S., Ohtsuka, T., Kageyama, R., Akai, M., Nakamura, K., and Ogata, T. (2012)
The identification of transcriptional targets of Ascl1 in oligodendrocyte development. [Glia Jun 19. doi: 10.1002/glia.22369.](#)

Imayoshi, I., Hirano, K., Kitano, S., Miyachi, H., and Kageyama, R. (2012)
In vivo evaluation of PhiC31 recombinase activity in transgenic mice.[Neurosci Res 73, 106-114.](#)

Imayoshi, I., Tabuchi, S., Hirano, K., Sakamoto, M., Kitano, S., Miyachi, H., Yamanaka, A., and Kageyama, R. (2012)
Light-induced silencing of neural activity in Rosa26 knock-in mice conditionally expressing the microbial halorhodopsin eNpHR2.0. [Neurosci Res, May 23.](#)

Imayoshi, I., Hirano, K., Sakamoto, M., Miyoshi, G., Imura, T., Kitano, S., Miyachi, H., and Kageyama, R. (2012)

A multifunctional teal-fluorescent Rosa26 reporter mouse line for Cre- and Flp-mediated recombination. [Neurosci Res 73, 85-91.](#)

Ueo, T., Imayoshi, I., Kobayashi, T., Ohtsuka, T., Seno, H., Nakase, H., Chiba, T., and Kageyama, R. (2012)

The role of Hes genes in intestinal development, homeostasis and tumor formation. [Development 139, 1071-1082.](#)

Horn, S., Kobberup, S., Jørgensen, MC., Kalisz, M., Klein, T., Kageyama, R., Gegg, M., Lickert, H., Lindner, J., Magnuson, MA., Kong, YY., Serup, P., Ahnfelt-Rønne, J., and Jensen, JN. (2012)

Mind bomb 1 is required for pancreatic β -cell formation. [Proc Natl Acad Sci U S A 109, 7356-7361.](#)

Sparrow, DB., Chapman, G., Smith, AJ., Mattar, MZ., Major, JA., O'Reilly, VC., Saga, Y., Zackai, EH., Dormans, JP., Alman, BA., McGregor, L., Kageyama, R., Kusumi, K., and Dunwoodie, SL. (2012)

A mechanism for gene-environment interaction in the etiology of congenital scoliosis. [Cell 149, 295-306.](#)

[2011]

Ohtsuka, T., Shimojo, H., Matsunaga, M., Watanabe, N., Kometani, K., Minato, N., and Kageyama, R. (2011) Gene expression profiling of neural stem cells and identification of regulators for neural differentiation during cortical development. [Stem Cells 29, 1817-1828.](#)

Niwa, Y., Shimojo, H., Isomura, A., González, A., Miyachi, H., and Kageyama, R. (2011) Different types of oscillations in Notch and Fgf signaling regulate the spatiotemporal periodicity of somitogenesis. [Genes Dev 25, 1115-1120.](#)

Sakamoto, M., Imayoshi, I., Ohtsuka, T., Yamaguchi, M., Mori, K., and Kageyama, R. (2011) Continuous neurogenesis in the adult forebrain is required for innate olfactory responses. [Proc Natl Acad Sci U S A 108, 8479-8484.](#)

Takashima, Y., Ohtsuka, T., González, A., Miyachi, H., and Kageyama, R. (2011) Intronic delay is essential for oscillatory expression in the segmentation clock. [Proc Natl Acad Sci U S A 108, 3300-3305.](#)

Tateya, T., Imayoshi, I., Tateya, I., Ito, J., and Kageyama, R. (2011) Cooperative functions of Hes/Hey genes in auditory hair cell and supporting cell development. [Dev Biol 352, 329-340.](#)

Shimojo, H., Ohtsuka, T., and Kageyama, R. (2011) Dynamic expression of notch signaling genes in neural stem/progenitor cells. [Front Neurosci. 2011;5:78.](#)

- Imayoshi, I., Sakamoto, M., and Kageyama, R. (2011) Genetic methods to identify and manipulate newly born neurons in the adult brain. [Front Neurosci. 2011 May 2;5:64.](#)
- Kageyama, R., Imayoshi, I., and Sakamoto, M. (2011) The role of neurogenesis in olfaction-dependent behaviors. [Behav Brain Res. 2011 May 3.](#)
- Imayoshi, I., and Kageyama, R. (2011) The role of notch signaling in adult neurogenesis. [Mol Neurobiol. 44, 7-12.](#)
- Shibata, K., Yamada, H., Sato, T., Dejima, T., Nakamura, M., Ikawa, T., Hara, H., Yamasaki, S., Kageyama, R., Iwakura, Y., Kawamoto, H., Toh, H., and Yoshikai, Y. (2011) Notch-Hes1 pathway is required for the development of IL-17-producing {gamma}{delta} T cells. [Blood 118, 586-593.](#)
- Matsumoto, A., Onoyama, I., Sunabori, T., Kageyama, R., Okano, H., and Nakayama, KI. (2011) Fbxw7-dependent degradation of Notch is required for control of stemness and neuronal-glial differentiation in neural stem cells. [J. Biol Chem 286, 13754-13764.](#)
- Ikeda, K., Kageyama, R., Suzuki, Y., and Kawakami, K. (2011) Six1 is indispensable for production of functional progenitor cells during olfactory epithelial development. [Int J Dev Biol.](#)
- Bae, YH., Park, HJ., Kim, SR., Kim, JY., Kang, Y., Kim, JA., Wee, HJ., Kageyama, R., Jung, JS., Bae, MK., and Bae, SK. (2011) Notch1 mediates visfatin-induced FGF-2 upregulation and endothelial angiogenesis. [Cardiovasc Res 89, 436-445.](#)

[2010]

- Kageyama, R., Niwa, Y., Shimojo, H., Kobayashi, T., and Ohtsuka, T. (2010) Ultradian oscillations in notch signaling regulate dynamic biological events. [Curr Top Dev Biol. 92, 311-331.](#)
- González, A., and Kageyama, R. (2010) Automatic reconstruction of the mouse segmentation network from an experimental evidence database. [Biosystems.](#)
- Kobayashi, T., and Kageyama, R. (2010) Hes1 regulates embryonic stem cell differentiation by suppressing Notch signaling. [Genes Cells 15, 689-698.](#)
- Shimizu, T., Nakazawa, M., Kani, S., Bae, YK., Shimizu, T., Kageyama, R., and Hibi, M. (2010) Zinc finger genes Fezf1 and Fezf2 control neuronal differentiation by repressing Hes5 expression in the forebrain. [Development 137, 1875-1885](#)
- Imayoshi, I., Sakamoto, M., Yamaguchi, M., Mori, K., and Kageyama, R. (2010) Essential roles of Notch signaling in maintenance of neural stem cells in the developing and adult brains. [J Neurosci. 30, 3489-3498.](#)
- Kobayashi, T., and Kageyama, R. (2010) Hes1 oscillation: making variable choices for stem cell differentiation. [Cell Cycle 9, 207-208.](#)

[2009]

- Inoue, T., Coles, BL., Dorval, K., Bremner, R., Bessho, Y., Kageyama, R., Hino, S., Matsuoka, M., Craft, CM., McInnes, RR., Tremblay, F., Prusky, GT., van der Kooy, D. (2010) Maximizing functional photoreceptor differentiation from adult human retinal stem cells. [Stem Cells 28, 489-500.](#)
- Nagahara, H., Ma, Y., Takenaka, Y., Kageyama, R., Yoshikawa, K. (2010) Spatiotemporal pattern in somitogenesis: a non-Turing scenario with wave propagation. [Phys Rev E Stat Nonlin Soft Matter Phys.](#)
- Kageyama, R., Ohtsuka, T., Shimojo, H., and Imayoshi, I. (2010) Dynamic regulation of Notch signaling in neural progenitor cells. [Curr Opin Cell Biol. 21, 733-740.](#)
- Arai, MA., Masada, A., Ohtsuka, T., Kageyama, R.,and Ishibashi, M. (2010) The first Hes1 dimer inhibitors from natural products. [Bioorg Med Chem Lett. 19, 5778-5881.](#)
- Kobayashi, T., Mizuno, H., Imayoshi, I., Furusawa, C., Shirahige, K., and Kageyama, R. (2009) The cyclic gene Hes1 contributes to diverse differentiation responses of embryonic stem cells. [Genes & Dev. 23, 1870-1875.](#)
- Kobayashi, T. and Kageyama, R. (2009) Dynamic advances in NF- κ B signaling analysis. [Science Signaling 2 pe47.](#)
- Murata, J., Ohtsuka, T., Tokunaga, A., Nishiike, S., Inohara, H., Okano, H., and Kageyama, R. (2009) Notch-Hes1 pathway contributes to the cochlear prosensory formation potentially through the transcriptional down-regulation of p27Kip1. [J Neurosci Res. 87, 3521-3534.](#)
- Kageyama, R., Niwa, Y., and Shimojo, H. (2009) Rhythmic gene expression in somite formation and neural development. [Mol. Cells 27, 497-502.](#)
- González, A., and Kageyama, R. (2009) Hopf Bifurcation in the Presomitic Mesoderm during the Mouse Segmentation. [J. Theor. Biol.259, 179-186.](#)
- Imayoshi, I., Sakamoto, M., Ohtsuka, T., and Kageyama, R. (2009) Continuous neurogenesis in the adult brain. [Dev. Growth Diff. 51, 379-386.](#)
- Niwa, Y., Shimojo, H., and Kageyama, R. (2009) Ultradian oscillation networks in somite segmentation and other biological events. In Systems Biology (Eds, S. Nakanishi, R. Kageyama, and D. Watanabe) Springer, pp. 199-207.
- Wall, D.S., Mears, A.J., McNeill, B., Mazerolle, C., Thurig, S., Wang, Y., Kageyama, R., and Wallace, V.A. (2009) Progenitor cell proliferation in the retina is dependent on Notch-independent Sonic hedgehog/Hes1 activity. [J. Cell Biol. 184, 101-112.](#)
- Kageyama, R., Ohsawa, R., and Ohtsuka, T. (2009) Cell differentiation. In Encyclopedia of Neuroscience (Eds. M.D. Binder, N. Hirokawa, and U. Windhorst) Academic Press, Oxford, pp. 591-596.
- Kageyama, R., Ohtsuka, T., Ohsawa, R., and Hatakeyama, J. (2009). Helix-loop-helix (bHLH) proteins: Hes family. In Encyclopedia of Neuroscience (Ed. L.R.

Squire). Academic Press, Oxford. vol. 4, pp. 1057-1065.

[2008]

- Kageyama, R., Ohtsuka, T., Shimojo, H., and Imayoshi, I. (2008) Dynamic Notch signaling in neural progenitor cells and a revised view of lateral inhibition. [Nature Neurosci. 11, 1247-1251.](#)
- Kinameri, E., Inoue, T., Aruga, J., Imayoshi, I., Kageyama, R., Shimogori, T., and Moore, A.W. (2008) Prdm proto-oncogene transcription factor family expression and interaction with the notch-hes pathway in mouse neurogenesis. [PLoS ONE 3, e3859](#)
- Imayoshi, I., Sakamoto, M., Ohtsuka, T., Takao, K., Miyakawa, T., Yamaguchi, M., Mori, K., Ikeda, T., Itohara, S., and Kageyama, R. (2008) Roles of continuous neurogenesis in the structural and functional integrity of the adult forebrain. [Nature Neurosci. 11, 1153-1161.](#)
- Hu, X., Wu, I., Chung, A.Y., Foldi, J., Chen, J., Ji, J.D., Tateya, T., Gessler, M., Kageyama, R., and Ivashkiv, L.B. (2008) Integration of Notch with TLR and IFN- γ pathways in acute macrophage activation and cytokine production. [Immunity 29, 691-703.](#)
- Imayoshi, I., Shimogori, T., Ohtsuka, T., and Kageyama, R. (2008) Hes genes and neurogenin regulate non-neural versus neural fate specification in the dorsal telencephalic midline. [Development 135, 2531-2541.](#)
- Ishii, A., Kobayashi, T., and Kageyama, R. (2008) Requirement of multiple lysine residues for the transcriptional activity and the instability of Hes7. [Biochem. Biophys. Res. Commun. 372, 142-146.](#)
- Shimojo, H., Ohtsuka, T., and Kageyama, R. (2008) Oscillations in Notch signaling regulate maintenance of neural progenitors. [Neuron,58\(1\), 52-64.](#)
- Nakamura, T., Ohtsuka, T., Sekiyama, E., Cooper, L.J., Kokubu, H., Fullwood, N.J., Barrandon, Y., Kageyama, R., and Kinoshita, S. (2008) Hes1 Regulates Corneal Development and the Function of Corneal Epithelial Stem/progenitor Cells. [Stem Cells 26, 1265-1274.](#)
- Nakayama, K., Satoh, T., Igari, A., Kageyama, R., and Nishida, E. (2008) FGF induces oscillations of Hes1 expression and Ras/ERK activation. [Curr Biol 18, 332-334](#)
- Kageyama, R., Ohtsuka, T., and Kobayashi, T. (2008) The roles of *Hes* genes in neural development. [Dev. Growth Diff. 50, S97-S103](#)
- Hojo, M., Kita, A., Kageyama, R., and Hashimoto, N. (2008) Notch-Hes signaling in pituitary development. [Expert Rev. Endocrinol. Metab. 3, 91-100.](#)
- Kokubu, H., Ohtsuka, T. and Kageyama, R. (2008) *Mash1* is required for enteroendocrine cell development in the glandular stomach. [Genes Cells 13, 41-51.](#)
- Ohsawa, R., and Kageyama, R. (2008) Regulation of retinal cell fate specification by multiple transcription factors. [Brain Res.,1192, 90-98.](#)

[2007]

- Kageyama, R., Yoshiura, S., Masamizu, Y., and Niwa, Y. (2007) Ultradian oscillators in somite segmentation and other biological events. [Cold Spring Harbor Symposia on Quantitative Biology, Vol. LXXII, 72:451-457.](#)
- Niwa, Y., Masamizu, Y., Liu, T., Nakayama, R., Deng, C.-X., and Kageyama, R. (2007) The initiation and propagation of Hes7 oscillation are cooperatively regulated by Fgf and Notch signaling in the somite segmentation clock. [Dev. Cell 13, 298-304.](#)
- Yoshiura, S., Ohtsuka, T., Takenaka, Y., Nagahara, H., Yoshikawa, K., and Kageyama, R. (2007) Ultradian oscillations in Stat, Smad and Notch signaling pathways in response to serum. [Proc. Natl. Acad. Sci. USA 104, 11292-11297.](#)
- Kageyama, R. Ohtsuka, T., and Kobayashi, T. (2007) The He/s/ gene family: repressors and oscillators that orchestrate embryogenesis. [Development 134, 1243-1251.](#)
- Kageyama, R., Masamizu, Y., and Niwa, Y. (2007) Oscillator mechanism of Notch pathway in the segmentation clock. [Dev. Dyn. 236, 1403-1409.](#)
- Bai, G., Sheng, N., Bian, W., Xie, Z., Yokota, Y., Benezra, R., Kageyama, R., Guillemot, F., and Jing, N. (2007) Id sustains Hes1 expression to inhibit precocious neurogenesis by releasing negative autoregulation of Hes1. [Dev. Cell 13, 283-297.](#)
- Kita, A., Imayoshi, I., Hojo, M., Kitagawa, M., Kokubu, H., Ohsawa, R., Ohtsuka, T., Kageyama, R., and Hashimoto, N. (2007) Hes1 and Hes5 control the progenitor pool and intermediate lobe specification in the pituitary development. [Mol. Endocrinol. 21, 1458-1466.](#)
- Gonzalez, A., and Kageyama, R. (2007) Practical lessons from theoretical models about the somitogenesis. [Gene Regulation and Systems Biology 1, 35-42.](#)
- Ikeda, K., Ando, Z., Ookawara, S., Sato, S., Kageyama, R., and Kawakami, K. (2007) *Six1* is essential for generating pioneer neurons, differentiation of olfactory sensory neurons, and production of sustentacular cell progenitors in olfactory epithelium. [Dev. Biol. 311, 53-68.](#)
- Karlsson, C., Jonsson, M., Asp, J., Brantsing, C., Kageyama, R., and Lindahl, A. (2007) Notch and HES5 are regulated during human cartilage differentiation. [Cell Tissue Res. 327, 539-551.](#)

[2006]

- Baek, J.H., Hatakeyama, J., Sakamoto, S., Ohtsuka, T., and Kageyama, R. (2006) Persistent and high levels of Hes1 expression regulate boundary formation in the developing central nervous system. [Development 133, 2467-2476.](#)
- Masamizu, Y., Ohtsuka, T., Takashima, Y., Nagahara, H., Takenaka, Y., Yoshikawa, K., Okamura, H., and Kageyama, R. (2006) Real-time imaging of the somite segmentation clock: revelation of unstable oscillators in the individual presomitic mesoderm cell. [Proc. Natl. Acad. Sci. USA 103, 1313-1318.](#)

- Imayoshi, I., Ohtsuka, T., Metzger, D., Chambon, P., and Kageyama, R. (2006) Temporal regulation of Cre recombinase activity in neural stem cells. [Genesis 44, 233-238.](#)
- Ohtsuka, T., Imayoshi, I., Kageyama, R., and McConnell, S.K. (2006) Visualization of embryonic neural stem cells using Hes promoters in transgenic mice. [Mol. Cell. Neurosci. 31, 109-122.](#)
- Zhu, X., Zhang, J., Tollkuhn, J., Ohsawa, R., Bresnick, E.H., Guillemot, F., Kageyama, R., and Rosenfeld, M.G. (2006) Sustained Notch signaling in progenitors is required for sequential emergence of distinct cell lineages during organogenesis. [Genes & Dev. 20, 2739-2753.](#)
- Liu, A., Li, J., Marin-Husstege, M., Kageyama, R., Fan, Y., Gelinas, C., and Casaccia-Bonelli, P. (2006) A molecular insight of Hes5-dependent inhibition of myelin gene expression: old partners and new players. [EMBO J. 25, 4833-4842.](#)
- Forni, P.E., Scuoppo, C., Imayoshi, I., Taulli, R., Dastru, W., Sala, V., Betz, U.A.K., Muzzi, P., Martinuzzi, D., Vercelli, A.E., Kageyama, R., and Ponzetto, C. (2006) High levels of Cre expression in neuronal progenitors cause defects in brain development leading to microencephaly and hydrocephaly. [J. Neurosci. 26, 9593-9602.](#)
- Fukuda, A., Kawaguchi, Y., Furuyama, K., Kodama, S., Horiguchi, M., Kuhara, T., Koizumi, M., Boyer, D.F., Fujimoto, K., Doi, R., Kageyama, R., Wright, C.V.E., and Chiba, T. (2006) Ectopic pancreas formation in *Hes1* knockout mice reveals plasticity of endodermal gut/bile duct/pancreatic progenitors. [J. Clin. Invest. 116, 1484-1493.](#)
- Moriyama, M., Osawa, M., Mak, S.-S., Ohtsuka, T., Yamamoto, N., Han, H., Delmas, V., Kageyama, R., Beermann, F., Larue, L., and Nishikawa, S.-I. (2006) Notch signaling via *Hes1* transcription factor maintains survival of melanoblasts and melanocyte stem cells. [J. Cell Biol. 173, 333-339.](#)
- Hatakeyama, J., Sakamoto, S., and Kageyama, R. (2006) *Hes1* and *Hes5* regulate development of the cranial and spinal nerve systems. [Dev. Neurosci. 28, 92-101.](#)
- Hatakeyama, J., and Kageyama, R. (2006) *Notch1* expression is spatiotemporally correlated with neurogenesis and negatively regulated by *Notch1*-independent *Hes* genes in the developing nervous system. [Cerebral Cortex 16, i132-i137.](#)
- Ong, C., Cheng, H., Chang, L.W., Ohtsuka, T., Kageyama, R., Stormo, G.D., and Kopan, R. (2006) Target selectivity of vertebrate notch proteins: Collaboration between discrete domains and CSL-binding site architecture determines activation probability. [J. Biol. Chem. 281, 5106-5119.](#)

[2005]

- Ohsawa, R., Ohtsuka, T., and Kageyama, R. (2005) *Mash1* and *Math3* are required for development of branchiomotor neurons and maintenance of neural progenitors. [J. Neurosci. 25, 5857-5865](#)

- Kageyama, R., Ohtsuka, T., Hatakeyama, J., and Ohsawa, R. (2005) Roles of bHLH genes in neural stem cell differentiation. [Exp. Cell Res. 306, 343-348](#)
- Masuda, K., Kubagawa, H., Ikawa, T., Chen, C.-C., Kakugawa, K., Hattori, M., Kageyama, R., Cooper, M.D., Minato, N., Katsura, Y., and Kawamoto, H. (2005) Prethymic T cell development defined by the expression of Paired Immunoglobulin-like Receptors. [EMBO J. 24, 4052-4060.](#)
- Murata, K., Hattori, M., Hirai, N., Shinozuka, Y., Hirata, H., Kageyama, R., Sakai, T., and Minato, N. (2005) Hes1 directly controls cell proliferation through the transcriptional repression of p27Kip1. [Mol. Cell. Biol. 25, 4262-4271.](#)
- Vernay, B., Koch, M., Vaccarino, F., Simeone, A., Kageyama, R., and Ang, SL. (2005) Otx2 regulates subtype specification and neurogenesis in the midbrain. [J. Neurosci. 25, 4856-4867.](#)
- Paquin, A., Barnabe-Heider, F., Kageyama, R., and Miller, F.D. (2005) CCAAT/enhancer-binding protein phosphorylation biases cortical precursors to generate neurons rather than astrocytes in vivo. [J. Neurosci. 25, 10747-10758.](#)
- Akagi, T., Akita, J., Haruta, M., Suzuki, T., Honda, Y., Inoue, T., Yoshiura, S., Kageyama, R., Yatsu, T., Yamada, M. and Takahashi, M. (2005) Iris-derived cells from adult rodents and primates adopt photoreceptor-specific phenotypes. [Invest. Ophthalmol. Vis. Sci. 46, 3411-3419.](#)
- Suzuki, K., Fukui, H., Kayahara, T., Sawada, M., Seno, H., Hiai, H., Kageyama, R., Okano, H., and Chiba, T. (2005) *Hes1*-deficient mice show precocious differentiation of Paneth cells in the small intestine. [Biochem. Biophys. Res. Commun. 328, 348-352.](#)

[2004]

- Akagi, T., Mandai, M., Ooto, S., Hirami, Y., Osakada, F., Kageyama, R., Yoshimura, N., and Takahashi, M. (2004) *Otx2* homeobox gene induces photoreceptor-specific phenotypes in cells derived from adult iris and ciliary tissue. [Invest Ophthalmol Vis Sci. 45, 4570-4575.](#)
- Kodama, Y., Hijikata, M., Kageyama, R., Shimotohno, K., and Chiba, T. (2004) The role of Notch signaling in the development of intrahepatic bile ducts. [Gastroenterology 127, 1775-1786.](#)
- Hatakeyama, J., Bessho, Y., Katoh, K., Ookawara, S., Fujioka, M., Guillemot, F., and Kageyama, R. (2004) *Hes* genes regulate size, shape and histogenesis of the nervous system by control of the timing of neural stem differentiation. [Development. 131, 5539-5550.](#)
- Ooto, S., Akagi, T., Kageyama, R., Akita, J., Mandai, M., Honda, Y., and Takahashi, M. (2004) Potential for neural regeneration after neurotoxic injury in the adult mammalian retina. [Proc Natl Acad Sci. 101, 13654-13659.](#)
- Hirata, H., Bessho, Y., Kokubu, H., Masamizu, Y., Yamada, S., Lewis, J. and Kageyama R. (2004) Instability of Hes7 protein is crucial for the somite segmentation clock. [Nature Genet.](#)

36, 750-754.

Akagi,T., Inoue, T., Miyoshi, G., Bessho, Y., Takahashi, M., Lee JE, Guillemot, F. and Kageyama R. (2004) Requirement of multiple bHLH genes for retinal neuronal subtype specification. J. Biol. Chem. **279**, 28492-28498.

Miyoshi, G., Bessho, Y., Yamada, S., and Kageyama, R. (2004) Identification of a Novel Basic Helix-Loop-Helix Gene, *Heslike*, and Its Role in GABAergic Neurogenesis. J.Neurosci. **24**(14):3672-82.

Takatsuka, K., Hatakeyama, J., Bessho, Y., and Kageyama, R. (2004) Roles of the bHLH gene *Hes1* in retinal morphogenesis. Brain Res. **1004**, 148-155.

Tsunematsu, R., Nakayama, K., Oike, Y., Nishiyama, M., Ishida, N., Hatakeyama, S., Bessho, Y., Kageyama, R., Suda, T., and Nakayama, K.I. (2004) Mouse Fbw7/Sel-10/Cdc4 is required for notch degradation during vascular development. J Biol Chem. **279**, 9417-9423

Hatakeyama, J. and Kageyama, R. (2004) Retinal cell fate determination and bHLH factors. Seminars Cell Dev. Biol. **15**, 83-89.

Sumazaki, R., Shiojiri, N., Isoyama, S., Masu, M., Masu, K., Osawa, M., Nakauchi, H., Kageyama, R., and Matsui, A. (2004) Conversion of biliary system to pancreatic tissue in *Hes1*-deficient mice. Nat Genet. **36**, 83-87.

[2003]

Sakamoto, M., Hirata H., Ohtsuka, T., Bessho, Y., Kageyama, R. (2003) The bHLH genes Hesr1/Hey1 and Hesr2/Hey2 regulate maintenance of neural precursor cells in the brain. J. Biol. Chem. **278**, 44808-44815.

Bessho, Y., and Kageyama, R. (2003) Oscillations, clocks and segmentation. Curr. Opin. Genet. Dev. **13**(4):379-84.

Tomita, S., Ueno, M., Sakamoto, M., Kitahama, Y., Ueki, M., Maekawa, N., Sakamoto, H., Gassmann, M., Kageyama, R., Ueda, N., Gonzalez, F.J., and Takahama, Y. (2003) Defective brain development in mice lacking the Hif-1 α gene in neural cells. Mol Cell Biol. **23**, 6739-6749.

Tateya, I., Nakagawa, T., Iguchi, F., Kim, T.S., Endo, T., Yamada, S., Kageyama, R., and Ito, J. (2003) Fate of neural stem cells grafted into injured inner ears of mice. Neuroreport. **14**, 1677-1681.

Kageyama, R., Hirata, H., and Hatakeyama, J. (2003) Retroviral vectors for gene delivery to dividing progenitor cells. Int Rev Neurobiol. **55**, 123-147.

Bessho, Y., Hirata,H., Masamizu,Y., and Kageyama, R. (2003) Periodic Repression by the bHLH Factor Hes7 Is an Essential Mechanism for the Somite Segmentation Clock. Genes & Dev. **17**, 1451-6.

Kunisato, A., Chiba, S., Nakagami-Yamaguchi, E., Kumano, K., Saito, T., Masuda, S.,

Yamaguchi, T., Osawa, M., Kageyama, R., Nakauchi, H., Nishikawa, M., and Hirai, H. (2003) HES-1 preserves purified hematopoietic stem cells ex vivo and accumulates side population cells in vivo. [Blood. 101, 777-783.](#)

Kayahara, T., Sawada, M., Takaishi, M., Fukui, H., Sano, H., Fukuzawa, H., Suzuki, K., Hiai, H., Kageyama, R., Okano, H., and Chiba, S. (2003) Candidate markers for stem and early progenitor cells, Musashi-1 and Hes1, are expressed in crypt base columnar cells of mouse small intestine. [FEBS Lett. 535, 131-135.](#)

[2002]

Hatakeyama, J., and Kagayama, R. (2002) Retrovirus-mediated gene transfer to retinal explants. [Methods 28, 387-395.](#)

Hirata, H., Yoshiura, S., Ohtsuka, T., Bessho, Y., Harada, T., Yoshikawa, K., and Kageyama, R. (2002) Oscillatory expression of the bHLH factor *Hes1* regulated by a negative feedback loop. [Science. 298, 840-843.](#)

Inoue, T., Hojo, M., Bessho, Y., Tano, Y., Lee, J. E., and Kageyama, R. (2002) *Math3* and *NeuroD* regulate amacrine cell fate specification in the retina. [Development 129, 831-842.](#)

Akiba, T., Kuroiwa, N., Shimizu-Yabe, A., Iwase, K., Hiwasa, T., Yokoe, H., Kubosawa, H., Kageyama, R., Dahrington, G.J., Mori, M., Tanzawa, H., and Takiguchi, M. (2002) Expression and regulation of the gene for arginase I in mouse salivary glands: requirement of CCAAT/enhancer-binding protein α for the expression in the parotid gland. [J Biochem. 132, 621-627.](#)

[2001]

Haruta, M., Kosaka, M., Kanegae, Y., Saito, I., Inoue, T., Kageyama, R., Nishida, A., Honda, Y., and Takahashi, M. (2001) Induction of photoreceptor-specific phenotypes in adult mammalian iris tissue. [Nat Neurosci. 4, 1163-1164.](#)

Bessho, Y., Sakata, R., Komatsu, S., Shiota, K., Yamada, S., and Kageyama, R. (2001) Dynamic expression and essential functions of *Hes7* in somite segmentation. [Genes & Dev. 15, 2642-2647.](#)

Hirata, H., Tomita, K., Bessho, Y., and Kageyama, R. (2001) *Hes1* and *Hes3* regulate maintenance of the isthmic organizer and development of the mid/hindbrain. [EMBO J. 20, 4454-4466.](#)

Ohtsuka, T., Sakamoto, M., Guillemot, F., and Kageyama, R. (2001) Roles of the basic helix-loop-helix genes *Hes1* and *Hes5* in expansion of neural stem cells of the developing brain. [J. Biol. Chem. 276, 30467-30474.](#)

Satow, T., Bae, S.-K., Inoue, T., Inoue, C., Bessho, Y., Hashimoto, N., and Kageyama, R. (2001) The bHLH gene *hesr2* promotes gliogenesis in mouse retina. [J. Neurosci. 21, 1265-](#)

1273.

Bessho, Y., Miyoshi, G., Sakata, R., and Kageyama, R. (2001) *Hes7*: a bHLH-type repressor gene regulated by Notch and expressed in the presomitic mesoderm. [Genes to Cells 6, 175-185.](#)

Hatakeyama, J., Tomita, K., Inoue, T., and Kageyama, R. (2001) Roles of homeobox and bHLH genes in specification of a retinal cell type. [Development 128, 1313-1322.](#)

Inoue, C., Bae, S.-K., Takatsuka, K., Inoue, T., Bessho, Y., and Kageyama, R. (2001) *Math6*, a bHLH gene expressed in the developing nervous system, promotes neuronal differentiation. [Genes Cells, 977-986.](#)

Zine, A., Qui, J., Aubert, A., therianos, S., Guillemot, F., Kageyama, R., and de Ribaupierre, F. (2001) *Hes1* and *Hes5* activities are required for the normal development of the hair cells in the mammalian cochlea. [J Neurosci. 21, 4712-4720.](#)

Nakashima, K., Takizawa, T., Ochiai, W., Yanagisawa, M., Hisatsune, T., Nakafuku, M., Miyazono, K., Kishimoto, T., Kageyama, R., and Taga, T. (2001) BMP2-mediated alteration in the developmental pathway of fetal mouse brain cells from neurogenesis to astrocytogenesis. [Proc Natl Acad Sci. 98, 5868-5873.](#)

Ohno, N., Izawa, A., Hattori, M., Kageyama, R., and Sudo, T. (2001) dlk inhibits stem cell factor-induced colony formation of murine hematopoietic progenitors: Hes-1-independent effect. [Stem Cells. 19, 71-79.](#)

[2000]

Tomita, K., Moriyoshi, K., Nakanishi, S., Guillemot, F., and Kageyama, R. (2000) Mammalian *achaete-scute* and *ataonal* homologs regulate neuronal versus glial fate determination in the central nervous system. [EMBO J. 19, 5460-5472.](#)

Hojo, M., Ohtsuka, T., Hashimoto, N., Gradwohl, G., Guillemot, F. and Kageyama, R. (2000) Glial cell fate specification modulated by the bHLH gene *Hes5* in mouse retina. [Development 127, 2515-2522.](#)

Bae, S.-K., Bessho, Y., Hojo, M., and Kageyama, R. (2000) The bHLH gene *Hes6*, an inhibitor of *Hes1*, promotes neuronal differentiation. [Development 127, 2933-2943.](#)

Hirata, H., Ohtsuka, T., Bessho, Y., and Kageyama, R. (2000) Generation of structurally and functionally distinct factors from the bHLH gene *Hes3* by alternative first exons. [J. Biol. Chem. 275, 19083-19089.](#)

Cau, E., Gradwohl, G., Casarosa, S., Kageyama, R., and Guillemot, F. (2000) *Hes* genes regulate sequential stages of neurogenesis in the olfactory epithelium. [Development 127, 2323-2332.](#)

Ito, T., Ueda, N., Yazawa, T., Okudela, K., Hayashi, H., Sudo, T., Guillemot, F., Kageyama, R., and Kitamura, H. (2000) Basic helix-loop-helix transcription factors regulate the

neuroendocrine differentiation of fetal mouse pulmonary epithelium. [Development 127, 3913-3921.](#)

Zheng, J.L., Shou, J., Guillemot, F., Kageyama, R., and Gao, W.-Q. (2000) *Hes1* is a negative regulator of inner ear hair cell differentiation. [Development 127, 4551-4560.](#)

Jensen, J., Pedersen, E.E., Galante, P., Hald, J., Heller, R.S., Ishibashi, M., Kageyama, R., Guillemot, F. Serup, P. and Madsen, O.D. (2000) Control of endodermal endocrine development by HES-1. [Nat Genet. 24, 36-44.](#)

Nakamura, Y., Sakakibara, S., Miyata, T., Ogawa, M., Shimazaki, T., Weiss, S., Kageyama, R., and Okano, H. (2000) The bHLH gene *Hes1* as a repressor of the neuronal commitment of CNS stem cells. [J Neurosci. 20, 283-293.](#)

Kageyama, R., Ohtsuka, T., and Tomita, K. (2000) The bHLH gene *Hes1* regulates differentiation of multiple cell types. [Mol Cells. 10, 1-7.](#)

Sawada, K., Konishi, Y., Tominaga, M., Watanabe, Y., Hirano, J., Inoue, S., Kageyama, R., Blum, M., and Tominaga, A. (2000) Goosecoid suppresses cell growth and enhances neuronal differentiation of PC12 cells. [J Cell Sci. 113, 2705-2713.](#)

Wakabayashi, N., Kageyama, R., Habu, T., Doi, T., Morita, T., Nozaki, M., Yamamoto, M., and Nishimune, Y. (2000) A novel cis-acting element regulates HES-1 gene expression in P19 embryonal carcinoma cells treated with retinoic acid. [J Biochem. 128, 1087-95.](#)

[1999]

Ohtsuka, T., Ishibashi, M., Gradwohl, G., Nakanishi, S., Guillemot, F., and Kageyama, R. (1999) Hes1 and Hes5 as Notch effectors in mammalian neuronal differentiation. [EMBO J. 18, 2196-2207.](#)

Tomita, K., Hattori, M., Nakamura, E., Nakanishi, S., Minato, N., and Kageyama, R. (1999) The bHLH gene Hes1 is essential for expansion of early T cell precursors. [Genes & Dev. 13, 1203-1210.](#)

Isaka, F., Ishibashi, M., Taki, W., Hashimoto, N., Nakanishi, S., and Kageyama, R. (1999) Ectopic expression of the bHLH gene Math1 disturbs neural development. [Eur. J. Neurosci. 11, 2582-2588.](#)

Kageyama, R., Ohtsuka, T. (1999) The Notch-Hes pathway in mammalian neural development. [Cell Res. 9, 179-188.](#)

Konishi, Y., Ohkawa, N., Makino, Y., Ohkubo, H., Kageyama, R., Furuichi, T., Mikoshiba, K., and Tamura, T. (1999) Transcriptional regulation of mouse type 1 inositol 1,4,5-triphosphate receptor gene by NeuroD-related factor. [J. Neurochem. 72, 1717-1724.](#)

[1998]

Tsuda, H., Takebayashi, K., Nakanishi, S., and Kageyama, R. (1998) Structure and promoter

analysis of Math3 gene, a mouse homolog of Drosophila proneural gene atonal: neural-specific expression by dual promoter elements. [J. Biol. Chem. 273, 6327-6333.](#)

Nishimura, M., Isaka, F., Ishibashi, M., Tomita, K., Tsuda, H., Nakanishi, S., and Kageyama, R. (1998) Structure, chromosomal locus and promoter of mouse Hes2 gene, a homologue of Drosophila hairy and Enhancer of split. [Genomics 49, 69-75.](#)

Ohtsuka, T., Asahi, M., Matsuura, N., Kikuchi, H., Hojo, M., Kageyama, R., Ohkubo, H., and Hoshimaru, M. (1998) Regulated expression of neurogenic basic helix-loop-helix transcription factors during differentiation of the immortalized neuronal progenitor cell line HC2S2 into neurons. [Cell Tissue Res. 293, 23-29.](#)

[1997]

Takebayashi, K., Takahashi, S., Yokota, C., Tsuda, H., Nakanishi, S., Asashima, M., and Kageyama, R. (1997) Conversion of ectoderm into a neural fate by ATH-3, a vertebrate basic helix-loop-helix gene homologous to Drosophila proneural gene atonal. [EMBO J. 16, 384-395.](#)

Matsue, M., Kageyama, R., Denhardt, D.T., and Noda, M. (1997) Helix-loop-helix-type transcription factor (HES-1) is expressed in osteoblastic cells, suppressed by 1,25(OH)₂ vitamin D₃, and modulates 1,25(OH)₂ vitamin D₃ enhancement of osteopontin gene expression. [Bone 20, 329-334.](#)

Kageyama, R. and Nakanishi, S. (1997) Helix-loop-helix factors in growth and differentiation of the nervous system. [Curr. Op. Genet. Dev. 7, 659-665.](#)

Kageyama, R., Ishibashi, M., Takebayashi, K., and Tomita, K. (1997) bHLH transcription factors and mammalian neuronal differentiation. [Int J Biochem Cell Biol. 29, 1389-1399.](#)

[1996]

Kageyama, R., Ishibashi, M., and Moriyoshi, K. (1996) Gene delivery to the nervous system by direct injection of retroviral vector. In **Genetic Manipulation of the Nervous System - Neuroscience Perspectives** (Ed. D.S. Latchman). Academic Press. pp135-148.

Tomita, K., Ishibashi, M., Nakahara, K., Ang, S.-L., Nakanishi, S., Guillemot, F., and Kageyama, R. (1996) Mammalian hairy and Enhancer of split homolog 1 regulates differentiation of retinal neurons and is essential for eye morphogenesis. [Neuron 16, 723-734.](#)

Tomita, K., Nakanishi, S., Guillemot, F., and Kageyama, R. (1996) Mash1 promotes neuronal differentiation in the retina. [Genes to Cells 1, 765-774.](#)

Isaka, F., Shimizu, C., Nakanishi, S., and Kageyama, R. (1996) Genetic mapping of four mouse bHLH genes related to Drosophila proneural gene atonal. [Genomics 37, 400-402.](#)

[1995]

Takebayashi, K., Akazawa, C., Nakanishi, S., and Kageyama, R. (1995) Structure and

promoter analysis of the gene encoding the mouse helix-loop-helix factor HES-5: identification of the neural precursor cell-specific promoter element. [J. Biol. Chem.](#) **270**, [1342-1349](#).

Akazawa, C., Ishibashi, M., Shimizu, C., Nakanishi, S., and Kageyama, R. (1995) A mammalian helix-loop-helix factor structurally related to the product of Drosophila proneural gene atonal is a positive transcriptional regulator expressed in the developing nervous system. [J. Biol. Chem.](#) **270**, [8730-8738](#).

Shimizu, C., Akazawa, C., Nakanishi, S., and Kageyama, R. (1995) MATH-2, a mammalian helix-loop-helix factor structurally related to the product of Drosophila proneural gene atonal, is specifically expressed in the nervous system. [Eur. J. Biochem.](#) **229**, [239-248](#).

Kageyama, R., Sasai, Y., Akazawa, C., Ishibashi, M., Takebayashi, K., Shimizu, C., Tomita, K., and Nakanishi, S. (1995) Regulation of mammalian neural development by helix-loop-helix transcription factors. [Critical Rev. Neurobiol.](#) **9**, [177-188](#).

Ishibashi, M., Ang, S.-L., Shiota, K., Nakanishi, S., Kageyama, R., and Guillemot, F. (1995) Targeted disruption of mammalian hairy and Enhancer of split homolog-1 (HES-1) leads to up-regulation of neural helix-loop-helix factors, premature neurogenesis and severe neural tube defects. [Genes & Dev.](#) **9**, [3136-3148](#).

[1994]

Takebayashi, K., Sasai, Y., Sakai, Y., Watanabe, T., Nakanishi, S., and Kageyama, R. (1994) Structure, chromosomal locus, and promoter analysis of the gene encoding the mouse helix-loop-helix factor HES-1: negative autoregulation through the multiple N box elements. [J. Biol. Chem.](#) **269**, [5150-5156](#).

Ishibashi, M., Moriyoshi, K., Sasai, Y., Shiota, K., Nakanishi, S., and Kageyama, R. (1994) Persistent expression of helix-loop-helix factor HES-1 prevents mammalian neural differentiation in the central nervous system. [EMBO J.](#) **13**, [1799-1805](#).

Sakagami, T., Sakurada, K., Sakai, Y., Watanabe, T., Nakanishi, S., and Kageyama, R. (1994) Structure and chromosomal locus of the mouse gene encoding a cerebellar Purkinje cell-specific helix-loop-helix factor HES-3. [Biochem. Biophys. Res. Commun.](#) **203**, [594-601](#).

[1993]

Ishibashi, M., Sasai, Y., Nakanishi, S., and Kageyama, R. (1993) Molecular characterization of HES-2, a mammalian helix-loop-helix factor structurally related to Drosophila hairy and Enhancer of split. [Eur. J. Biochem.](#) **215**, [645-652](#).

[1992]

Akazawa, C., Sasai, Y., Nakanishi, S., and Kageyama, R. (1992) Molecular characterization of

a rat negative regulator with a basic helix-loop-helix structure predominantly expressed in the developing nervous system. [J. Biol. Chem. 267, 21879-21885.](#)

Sasai, Y., Kageyama, R., Tagawa, Y., Shigemoto, R., and Nakanishi, S. (1992) Two mammalian helix-loop-helix factors structurally related to Drosophila hairy and Enhancer of split. [Genes & Dev. 6, 2620-2634.](#)