Jan-Wilhelm Kornfeld
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Ansættelse

Professor

Professor

Institut for Biokemi og Molekylær Biologi

Syddansk Universitet

Odense M

1. jan. 1998 → present

Research interests

The impact of non-protein coding RNAs like microRNAs and, more recently, long noncoding RNAs on eukaryotic gene regulation just started to be understood. The Kornfeld lab would like to take part in this 'Noncoding revolution' by identifying disease-associated noncoding RNAs and investigating their role in signaling circuits regulating cellular and organismal energy homeostasis in health and metabolic disease. We apply state-of-the art techniques, for instance next-generation sequencing, transgenic mouse models and in vivo RNA inhibition approaches to understand the intricate biology of disease-associated noncoding RNAs. Our ultimate goal is to define novel RNA targets for correction of metabolic diseases.

Education and professional experience

2018 -	DDA Professor for Molecular Biology of Metabolism Diseases (SDU, Denmark)
2014 - 2018	Group Leader at Max Planck Institute for Metabolism Research (Germany)
2013 - 2018	Adjunct Group Leader at Cologne Cluster of Excellence (CECAD, Germany)
2008	PhD in Cell Biology, University of Kiel (Germany)
2003	Diploma in Biochemistry, Medical University of Hanover (Germany)

Awards and Honours

2010 - 2012	Long Term Fellowship of the European Molecular Biology Organisation (EMBO)
2010 - 2012	Senior Postdoctoral Career Grant (CECAD Cluster of Excellence)

Projekter

EU - Horizon 2020 - Excellent Science - ERC - Transgenerational regulation of glucose metabolism by noncoding RNAs - TransGen RNA' ('action')
Kornfeld, J.
01/01/2018 → 30/04/2021

TransGen RNA: EU - Horizon202 - Excellence Science - ERC - Starting Grant: Transgenerational regulation of glucose metabolism by noncoding RNAs
Kornfeld, J.
01/05/2016 → 30/04/2021

Gm15441: Investigating the function of obesity-associated lncRNA Gm15441 in liver metabolism
Oliveira, B. M. S. & Kornfeld, J.
12/11/2018 → 30/04/2021

Novo Nordisk Challenge Programme - ADIPOSIGN - Center for Adipocyte Signaling
Mandrup, S., Kornfeld, J., Quesada-Lopez, T. P., Mikkelsen, M. V., Josephrajan, A., Malmros, R. V., Gerhart-Hines, Z., Babu, M. M., Elmelund-Præstekær, L. C. B., Wishoff, M., Nielsen, R. & Marcher, A.
01/01/2019 → 31/12/2024

Novo Nordisk Fonden - Biovidenskab og Basal Biomedicin - Dissecting the in vivo contribution of cold-inducible Adenylylcyclase 3 protein truncations to brown adipose tissue homeostasis and glucose metabolism
Kornfeld, J.
01/04/2018 → 31/03/2020

Novo Nordisk Fonden - Challenge Programme 2018 - ADIPOSIGN - Center for Adipocyte Signaling JK
Kornfeld, J.
01/05/2019 → 31/12/2024

Uddannelses- og Forskningsministeriet - FSS - BACE1 cell surface proteostasis as endocrine nexus connecting metabolic disease
Kornfeld, J.
01/12/2018 → 31/01/2021

Undervisning og vejledning

BMB508 - Advanced Molecular Biology

Jan-Wilhelm Kornfeld
01/01/2018 → …

BMB822 - Modern Developments and Technologies in Molecular Cell Biology

Jan-Wilhelm Kornfeld &
01/01/2018 → …

NAT501 - First year project - Responsible supervisor

Jan-Wilhelm Kornfeld & Christoph Andreas Kiefer
01/01/2018 → …

Supervision

2018 -	2 ISA Students
2014 -	5 BSc and MSc Students
2014 -	6 PhD Students
2014 -	10 Postdoctoral Fellows

Publikationer

Senescence-Associated Metabolomic Phenotype in Primary and iPSC-Derived Mesenchymal Stromal Cells
Fernandez-Rebollo, E., Franzen, J., Goetzke, R., Hollmann, J., Ostrowska, A., Oliverio, M., Sieben, T., Rath, B., Kornfeld, J-W. & Wagner, W., 11. feb. 2020, I : Stem Cell Reports. 14, 2, s. 201-209

A MAFG-lncRNA axis links systemic nutrient abundance to hepatic glucose metabolism
Pradas-Juni, M., Hansmeier, N. R., Link, J. C., Schmidt, E., Larsen, B. D., Klemm, P., Meola, N., Topel, H., Loureiro, R., Dhaouadi, I., Kiefer, C. A., Schwarzer, R., Khani, S., Oliverio, M., Awazawa, M., Frommolt, P., Heeren, J., Scheja, L., Heine, M., Dieterich, C. & 15 flere, Büning, H., Yang, L., Cao, H., Jesus, D. F. D., Kulkarni, R. N., Zevnik, B., Tröder, S. E., Knippschild, U., Edwards, P. A., Lee, R. G., Yamamoto, M., Ulitsky, I., Fernandez-Rebollo, E., Vallim, T. Q. D. A. & Kornfeld, J-W., 31. jan. 2020, I : Nature Communications. 11, 1, s. 644

s ·nr: a visual analytics framework for contextual analyses of private and public RNA-seq data
Klemm, P., Frommolt, P. & Kornfeld, J. W., 24. jan. 2019, I : BMC Genomics. 20, 12 s., 85.

Rapid Generation of Long Noncoding RNA Knockout Mice Using CRISPR/Cas9 Technology
Hansmeier, N. R., Widdershooven, P. J. M., Khani, S. & Kornfeld, J-W., 23. jan. 2019, I : Non-Coding R N A. 5, 1, s. 1-12 12.

LincRNA H19 protects from dietary obesity by constraining expression of monoallelic genes in brown fat
Schmidt, E., Dhaouadi, I., Gaziano, I., Oliverio, M., Klemm, P., Awazawa, M., Mitterer, G., Fernandez-Rebollo, E., Pradas-Juni, M., Wagner, W., Hammerschmidt, P., Loureiro, R., Kiefer, C., Hansmeier, N. R., Khani, S., Bergami, M., Heine, M., Ntini, E., Frommolt, P., Zentis, P. & 5 flere, Ørom, U. A., Heeren, J., Blüher, M., Bilban, M. & Kornfeld, J. W., 6. sep. 2018, I : Nature Communications. 9, 1, 16 s., 3622.

A microRNA screen reveals that elevated hepatic ectodysplasin A expression contributes to obesity-induced insulin resistance in skeletal muscle
Awazawa, M., Gabel, P., Tsaousidou, E., Nolte, H., Krüger, M., Schmitz, J., Ackermann, P. J., Brandt, C., Altmüller, J., Motameny, S., Wunderlich, F. T., Kornfeld, J-W., Blüher, M. & Brüning, J. C., dec. 2017, I : Nature Medicine. 23, 12, s. 1466-1473 8 s.

Lsd1 Ablation Triggers Metabolic Reprogramming of Brown Adipose Tissue
Duteil, D., Tosic, M., Lausecker, F., Nenseth, H. Z., Müller, J. M., Urban, S., Willmann, D., Petroll, K., Messaddeq, N., Arrigoni, L., Manke, T., Kornfeld, J-W., Brüning, J. C., Zagoriy, V., Meret, M., Dengjel, J., Kanouni, T. & Schüle, R., 18. okt. 2016, I : Cell Reports. 17, 4, s. 1008-1021 14 s.

Decoding Lamarck-transgenerational control of metabolism by noncoding RNAs
Schmidt, E. & Kornfeld, J-W., jun. 2016, I : Pflügers Archiv - European Journal of Physiology. 468, 6, s. 959-69 11 s.

Dicer1-miR-328-Bace1 signalling controls brown adipose tissue differentiation and function
Oliverio, M., Schmidt, E., Mauer, J., Baitzel, C., Hansmeier, N., Khani, S., Konieczka, S., Pradas-Juni, M., Brodesser, S., Van, T-M., Bartsch, D., Brönneke, H. S., Heine, M., Hilpert, H., Tarcitano, E., Garinis, G. A., Frommolt, P., Heeren, J., Mori, M. A., Brüning, J. C. & 1 flere, Kornfeld, J-W., mar. 2016, I : Nature Cell Biology. 18, 3, s. 328-36 9 s.

Obesity-induced CerS6-dependent C16:0 ceramide production promotes weight gain and glucose intolerance
Turpin, S. M., Nicholls, H. T., Willmes, D. M., Mourier, A., Brodesser, S., Wunderlich, C. M., Mauer, J., Xu, E., Hammerschmidt, P., Brönneke, H. S., Trifunovic, A., LoSasso, G., Wunderlich, F. T., Kornfeld, J-W., Blüher, M., Krönke, M. & Brüning, J. C., 7. okt. 2014, I : Cell Metabolism. 20, 4, s. 678-86 9 s.

Regulation of metabolism by long, non-coding RNAs
Kornfeld, J-W. & Brüning, J. C., 2014, I : Frontiers in Genetics. 5, s. 57

Obesity-induced overexpression of miR-802 impairs glucose metabolism through silencing of Hnf1b
Kornfeld, J-W., Baitzel, C., Könner, A. C., Nicholls, H. T., Vogt, M. C., Herrmanns, K., Scheja, L., Haumaitre, C., Wolf, A. M., Knippschild, U., Seibler, J., Cereghini, S., Heeren, J., Stoffel, M. & Brüning, J. C., 7. feb. 2013, I : Nature. 494, 7435, s. 111-5 5 s.

MyomiRs-133a/b turn off the heat
Kornfeld, J-W. & Brüning, J. C., dec. 2012, I : Nature Cell Biology. 14, 12, s. 1248-9 2 s.

Hepatic growth hormone and glucocorticoid receptor signaling in body growth, steatosis and metabolic liver cancer development
Mueller, K. M., Themanns, M., Friedbichler, K., Kornfeld, J-W., Esterbauer, H., Tuckermann, J. P. & Moriggl, R., 25. sep. 2012, I : Molecular and Cellular Endocrinology. 361, 1-2, s. 1-11

Growth-hormone-induced signal transducer and activator of transcription 5 signaling causes gigantism, inflammation, and premature death but protects mice from aggressive liver cancer
Friedbichler, K., Themanns, M., Mueller, K. M., Schlederer, M., Kornfeld, J-W., Terracciano, L. M., Kozlov, A. V., Haindl, S., Kenner, L., Kolbe, T., Mueller, M., Snibson, K. J., Heim, M. H. & Moriggl, R., mar. 2012, I : Hepatology (Baltimore,

Md.). 55, 3, s. 941-52 12 s.

Impairment of hepatic growth hormone and glucocorticoid receptor signaling causes steatosis and hepatocellular carcinoma in mice
Mueller, K. M., Kornfeld, J-W., Friedbichler, K., Blaas, L., Egger, G., Esterbauer, H., Hasselblatt, P., Schlederer, M., Haindl, S., Wagner, K-U., Engblom, D., Haemmerle, G., Kratky, D., Sexl, V., Kenner, L., Kozlov, A. V., Terracciano, L., Zechner, R., Schuetz, G., Casanova, E. & 3 flere, Pospisilik, J. A., Heim, M. H. & Moriggl, R., okt. 2011, I : Hepatology (Baltimore, Md.). 54, 4, s. 1398-409 12 s.

Variants in STAT5B associate with serum TC and LDL-C levels
Kornfeld, J-W., Isaacs, A., Vitart, V., Pospisilik, J. A., Meitinger, T., Gyllensten, U., Wilson, J. F., Rudan, I., Campbell, H., Penninger, J. M., Sexl, V., Moriggl, R., van Duijn, C., Pramstaller, P. P. & Hicks, A. A., sep. 2011, I : The Journal of clinical endocrinology and metabolism. 96, 9, s. E1496-501

Overexpression of TACE and TIMP3 mRNA in head and neck cancer: association with tumour development and progression
Kornfeld, J-W., Meder, S., Wohlberg, M., Friedrich, R. E., Rau, T., Riethdorf, L., Löning, T., Pantel, K. & Riethdorf, S., 4. jan. 2011, I : British Journal of Cancer. 104, 1, s. 138-45 8 s.

Signal transducer and activator of transcription 3 protects from liver injury and fibrosis in a mouse model of sclerosing cholangitis
Mair, M., Zollner, G., Schneller, D., Musteanu, M., Fickert, P., Gumhold, J., Schuster, C., Fuchsbichler, A., Bilban, M., Tauber, S., Esterbauer, H., Kenner, L., Poli, V., Blaas, L., Kornfeld, J. W., Casanova, E., Mikulits, W., Trauner, M. & Eferl, R., jun. 2010, I : Gastroenterology. 138, 7, s. 2499-508 10 s.

Disruption of the growth hormone--signal transducer and activator of transcription 5--insulinlike growth factor 1 axis severely aggravates liver fibrosis in a mouse model of cholestasis
Blaas, L., Kornfeld, J-W., Schramek, D., Musteanu, M., Zollner, G., Gumhold, J., van Zijl, F., Schneller, D., Esterbauer, H., Egger, G., Mair, M., Kenner, L., Mikulits, W., Eferl, R., Moriggl, R., Penninger, J., Trauner, M. & Casanova, E., apr. 2010, I : Hepatology (Baltimore, Md.). 51, 4, s. 1319-26 8 s.

Expression of activated STAT5 in neoplastic mast cells in systemic mastocytosis: subcellular distribution and role of the transforming oncoprotein KIT D816V
Baumgartner, C., Cerny-Reiterer, S., Sonneck, K., Mayerhofer, M., Gleixner, K. V., Fritz, R., Kerenyi, M., Boudot, C., Gouilleux, F., Kornfeld, J-W., Sillaber, C., Moriggl, R. & Valent, P., dec. 2009, I : The American Journal of Pathology. 175, 6, s. 2416-29 14 s.

The different functions of Stat5 and chromatin alteration through Stat5 proteins
Kornfeld, J-W., Grebien, F., Kerenyi, M. A., Friedbichler, K., Kovacic, B., Zankl, B., Hoelbl, A., Nivarti, H., Beug, H., Sexl, V., Muller, M., Kenner, L., Mullner, E. W., Gouilleux, F. & Moriggl, R., 1. maj 2008, I : Frontiers in Bioscience. 13, s. 6237-54 18 s.

Direct glucocorticoid receptor-Stat5 interaction in hepatocytes controls body size and maturation-related gene expression
Engblom, D., Kornfeld, J-W., Schwake, L., Tronche, F., Reimann, A., Beug, H., Hennighausen, L., Moriggl, R. & Schütz, G., 15. maj 2007, I : Genes & Development. 21, 10, s. 1157-62 6 s.

High incidence of EMMPRIN expression in human tumors
Riethdorf, S., Reimers, N., Assmann, V., Kornfeld, J-W., Terracciano, L., Sauter, G. & Pantel, K., 15. okt. 2006, I : International Journal of Cancer. 119, 8, s. 1800-10 11 s.

Commissions of trust

Research institutions and scientific foundations:
Reviewer for German Research Foundation (DFG), German Leibniz Society, Austrian Science Fund (FWF), French National Center for Scientific Research (CNRS), French National Institute of Health and Medical Research (INSERM), Medical Research Council (UK), European Research Council, French National Research Agency.

Scientific journals:

Ad-hoc reviewer for NatCommun, Nat Cell Biol, Front Genet, J Clin Invest, Mol Metab, FEBS, Sci Rep,Nucl Acids Res, Cell Cycle.

Editorial boards:
Molecular biology section editorial board member Sci Rep.