Genevieve Thon
Lektor

Functional genomics
Postaddresse:
Ole Maaløes Vej 5
2200
København N.
E-mail: gen@bio.ku.dk
Telefon: +4535330198
Hjemmeside: http://www.bio.ku.dk, https://www1.bio.ku.dk/english/research/fg/

Kort præsentation

My laboratory studies heterochromatin formation and genome dynamics in the fission yeast Schizosaccharomyces pombe. Specific aspects on which we have focused in recent years are sumoylation, chromatin boundary formation, and theoretical modeling of heterochromatin formation. Locally, we collaborate with Physicists at NBI (Kim Sneppen, Ala Trusina, Lene Oddershede) and with the group of Karen Skriver in the Department of BIology. Our current international collaborators include Thomas Schalch (University of Geneva), Ron Hay (University of Dundee), and Hisao Masai (Tokyo Metropolitant Institute of Medical Science).

Kvalifikationer

Postdoc, National Cancer Institute
1990 → 1994

PhD student, Fred Hutchinson Cancer Research Center
1986 → 1990

Master Student, Institut Pasteur
1985 → 1986

Undergraduate, École Normale Supérieure
1982 → 1986

PhD Life and Health Sciences, Sorbonne Université
1990 → …

Publikationer

Fission yeast Swi2 designates cell-type specific donor and stimulates Rad51-driven strand exchange for mating-type switching
Maki, T., Thon, Genevieve & Iwasaki, H., 2023, I: Nucleic acids symposium series. 51, 8, 19 s.

Euchromatin factors HULC and Set1C affect heterochromatin organization and mating-type switching in fission yeast *Schizosaccharomyces pombe*
Esquivel-Chávez, A., Maki, T., Tsubouchi, H., Handa, T., Kimura, H., Haber, J. E., Thon, Genevieve & Iwasaki, H., 2022, I: Genes and Genetic Systems. 97, 3, s. 123-138 16 s.

The transcription factor Atf1 lowers the transition barrier for nucleosome-mediated establishment of heterochromatin
Nickels, Jan Fabio, Della-Rosa, M. E., Miguelez Goyeneche, I., Charlton, Sebastian Jespersen, Sneppen, Kim & Thon, Genevieve, 2022, I: Cell Reports. 39, 7, 17 s., 110828.

Establishment of heterochromatin in domain-size-dependent bursts
Nickels, Jan Fabio, Edwards, A. K., Charlton, Sebastian Jespersen, Mortensen, A. M., Hougaard, S. C. L., Trusina, Ala, Sneppen, Kim & Thon, Genevieve, 13 apr. 2021, I: Proceedings of the National Academy of Sciences of the United States of America. 118, 15, 11 s., e2022887118.

Integrity of a heterochromatic domain ensured by its boundary elements
Charlton, Sebastian Jespersen, Jørgensen, M. M. & Thon, Genevieve, 2020, I: Proceedings of the National Academy of Sciences of the United States of America. 117, 35, s. 21504-21511 8 s.

Mating-type switching by homology-directed recombinational repair: a matter of choice
Thon, Genevieve, Maki, T., Haber, J. E. & Iwasaki, H., 2019, I: Current Genetics. 65, 2, s. 351-362

New insights into donor directionality of mating-type switching in *Schizosaccharomyces pombe*
Maki, T., Ogura, N., Haber, J. E., Iwasaki, H. & Thon, Genevieve, maj 2018, I: PLOS Genetics. 14, 5, s. 1-25 e1007424.

Dependency of Heterochromatin Domains on Replication Factors
Jahn, L. J., Mason, B., Brøgger, Peter, Toteva, T., Nielsen, D. K. & Thon, Genevieve, 2018, I: G3: Genes, Genomes, Genetics (Bethesda). 8, 2, s. 477-489 13 s.

Structure of the replication regulator Sap1 reveals functionally important interfaces
Jørgensen, M. L. M., Ekundayo, B., Zaratiegui, M., Skriver, Karen, Thon, Genevieve & Schalch, T., 2018, I: Scientific Reports. 8, 9 s., 10930.

Ethyl methanesulfonate mutagenesis in *Schizosaccharomyces pombe*
Ekwall, K. & Thon, Genevieve, aug. 2017, I: Cold Spring Harbor Protocols. 2017, 8, s. 643-646 4 s.

Genetic analysis of *Schizosaccharomyces pombe*
Ekwall, K. & Thon, Genevieve, aug. 2017, I: Cold Spring Harbor Protocols. 2017, 8, s. 593-605 13 s.

Mating-type determination in *Schizosaccharomyces pombe*
Ekwall, K. & Thon, Genevieve, aug. 2017, I: Cold Spring Harbor Protocols. 2017, 8, s. 641-642 2 s.

Selecting *Schizosaccharomyces pombe* diploids
Ekwall, K. & Thon, Genevieve, jul. 2017, I: Cold Spring Harbor Protocols. 2017, 7, s. 537-540 4 s.

Setting up *Schizosaccharomyces pombe* crosses/matings
Ekwall, K. & Thon, Genevieve, jul. 2017, I: Cold Spring Harbor Protocols. 2017, 7, s. 533-536 4 s.

Spore analysis and tetrad dissection of *Schizosaccharomyces pombe*
Ekwall, K. & Thon, Genevieve, jul. 2017, I: Cold Spring Harbor Protocols. 2017, 7, s. 541-544 4 s.

Establishment of expression-state boundaries by Rif1 and Taz1 in fission yeast
Toteva, T., Mason, B., Kanoh, Y., Brøgger, P., Green, D., Hansen, J. V., Masai, H. & Thon, Genevieve, 31 jan. 2017, I: Proceedings of the National Academy of Sciences of the United States of America. 114, 5, s. 1093-1098 6 s.

Nucleation and spreading of a heterochromatic domain in fission yeast
Obersriebnig, M. J., Pallesen, E. M. H., Sneppen, Kim, Trusina, Ala & Thon, Genevieve, 2016, I: Nature Communications. 7, 11 s., 11518.

Targeting of SUMO substrates to a Cdc48-Ufd1-Npl4 segregase and STUbL pathway in fission yeast
Køhler, J. B., Tammsalu, T., Jørgensen, M. L. M., Steen, N., Hay, R. T. & Thon, Genevieve, 2015, I: Nature Communications. 6, 14 s., 8827.

Concerted action of the Ubiquitin-Fusion Degradation Protein 1 (Ufd1) and Sumo-Targeted Ubiquitin Ligases (STUbLs) in the DNA-damage response
Køhler, J. B., Jørgensen, M. L. M., Beinoraite, G., Thorsen, M. & Thon, Genevieve, 2013, I: P L o S One. 8, 11, 15 s., e80442.

Subnuclear relocalization and silencing of a chromosomal region by an ectopic ribosomal DNA repeat
Jakociunas, T., Domange Jordö, M. E., Mebarek, M. A., Bünner, C. M., Hansen, J. V., Oddershede, L. B. & Thon, Genevieve, 2013, I: Proceedings of the National Academy of Sciences of the United States of America. 110, 47, s. E4465-E4473 9 s.

Two portable recombination enhancers direct donor choice in fission yeast heterochromatin
Jakociunas, T., Holm, L. R., Hansen, J. V., Trusina, Ala & Thon, Genevieve, 2013, I: P L o S Genetics. 9, 10, 14 s., e1003762.

Mediator regulates non-coding RNA transcription at fission yeast centromeres
Thorsen, M., Hansen, H., Venturi, M., Holmberg, Steen & Thon, Genevieve, 2012, I: Epigenetics & Chromatin. 5, s. 1-10 10 s.

New romance between RNA degradation pathways: Mmi1 and RNAi meet on heterochromatic islands
Holm, L. R. & Thon, Genevieve, 2012, I: E M B O Journal. 31, s. 2242 - 2243 2 s.

H3K9me-independent gene silencing in fission yeast heterochromatin by Clr5 and histone deacetylases
Hansen, K. R., Hazan, I., Shanker, S., Watt, S., Hansen, J. V., Bähler, J., Martienssen, R. A., Partridge, J. F., Cohen, A. & Thon, Genevieve, 2011, I: P L o S Genetics. 7, 1, 16 s.

RNAi and heterochromatin repress centromeric meiotic recombination
Ellermeier, C., Higuchi, E. C., Phadnis, N., Holm, L., Geelhood, J. L., Thon, Genevieve & Smith, G. R., 11 maj 2010, I: Proceedings of the National Academy of Sciences USA (PNAS). 107, 19, s. 8701-5 5 s.

Competing to destroy: a fight between two RNA-degradation systems
Thon, Genevieve, 2008, I: Nature Structural and Molecular Biology. 15, 10, s. 1001-2 2 s.

Histone modifications: Cycling with chromosomal replication
Thon, Genevieve, 2008, I: Current Biology. 18, 9, s. 380-382 3 s.

Theoretical analysis of epigenetic cell memory by nucleosome modification
Dodd, I. B., Micheelsen, M. A., Sneppen, Kim & Thon, Genevieve, 2007, I: Cell. 129, 4, s. 813-22 10 s.

Evolutionary-conserved telomere-linked helicase genes of fission yeast are repressed by silencing factors, RNAi components and the telomere-binding protein Taz1
Hansen, K. R., Ibarra, P. T. & Thon, Genevieve, 2006, I: Nucleic Acids Research. 34, 1, s. 78-88

Global Effects on Gene Expression in Fission Yeast by Silencing and RNA Interference Machineries
Hansen, K. R., Burns, G., Mata, J., Volpe, T. A., Martienssen, R. A., Bähler, J. & Thon, Genevieve, 2005, I: Molecular and Cellular Biology. 25, 2, s. 590-601

The Clr7 and Clr8 Directionality Factors and the Pcu4 Cullin Mediate Heterochromatin Formation in the Fission Yeast *Schizosaccharomyces pombe*
Thon, Genevieve, Hansen, K. R., Altes, S. P., Sidhu, D., Singh, G., Verhein-Hansen, J., Bonaduce, M. J. & Klar, A. J. S., 2005, I: Genetics. 171, 4, s. 1583-1595

A novel type of silencing factor, Clr2, is necessary for transcriptional silencing at various chromosomal locations in the fission yeast Schizosaccharomyces pombe
Bjerling, P., Ekwall, K., Egel, Richard & Thon, Genevieve, 2004, I: Nucleic Acids Research. 32, 15, s. 4421-8 7 s.

Anomalous Diffusion in Living Yeast Cells
Tolic-Norrelykke, I. M., Munteanu, E. L., Thon, Genevieve, Oddershede, L. B. & Berg-Sorensen, K., 2004, I: Physical Review Letters. Vol. 93 No. 7, August 13th, s. Artikel No. 078102

Positioning and elongation of the fission yeast spindle by microtubule-based pushing
Tolic-Norrelykke, I. M., Sacconi, L., Thon, Genevieve & Pavone, F. S., 2004, I: Current Biology. Vol. 14. No. 13., s. 1181-1186

Role of the fission yeast SUMO E3 ligase Pli1p in centromere and telomere maintenance
Xhemalce, B., Seeler, J. S., Thon, Genevieve, Dejean, A. & Arcangioli, B., 2004, I: EMBO Journal. Vol. 23 No. 19, s. 3844-3853

Mating-type cassettes: structure, switching and silencing
Arcangioli, B. & Thon, Genevieve, 2003, *The Molecular Biology of Schizosaccharomyces pombe.*. Springer, s. 129-148

The fission yeast ubiquitin-conjugating enzymes UbcP3, Ubc15, and Rhp6 affect transcriptional silencing of the mating-type region
Nielsen, I. S., Nielsen, Olaf, Murray, J. M. & Thon, Genevieve, 1 aug. 2002, I: Eukaryotic Cell (Online Edition). 1, 4, s. 613-25 13 s.

Expression-state boundaries in the mating-type region of fission yeast
Thon, Genevieve, Bjerling, K. P., Bünner, C. M. & Hansen, J. V., 2002, I: Genetics. 161, s. 611-622

Functional divergence between histone deacetylases in fission yeast by distinct cellular localization and *in vivo* specificity
Bjerling, P., Silverstein, R., Thon, Genevieve, Caudy, A., Grewal, S. & Ekwall, K., 2002, I: Mol. Cell. Biol.. 22, s. 2170-2181

Four chromo-domain proteins of *Schizosaccharomyces pombe* differentially repress transcription at various chromosomal locations
Thon, Genevieve & Hansen, J. V., 2000, I: Genetics. 155, s. 551-568

Localization and properties of a silencing element near the *mat3-M* mating-type cassette of *Schizosaccharomyces pombe*
Thon, Genevieve, Bjerling, P. & Nielsen, I. S., 1999, I: Genetics. 151, s. 945-963

Epigenetic inheritance of transcriptional silencing and switching competence in fission yeast
Thon, Genevieve & Friis, T., 1997, I: Genetics. 145, s. 685-696

Three additional linkage groups that repress transcription and meiotic recombination in the mating-type region of Schizosaccharomyces pombe
Thon, Genevieve, Cohen, A. & Klar, A., 1994, I: Genetics. 138, 1, s. 29-38 10 s.

Directionality of fission yeast mating-type interconversion is controlled by the location of the donor loci
Thon, Genevieve, 1993, I: Genetics. 134, 4, s. 1045-1054 10 s.

The clr1 locus regulates the expression of the cryptic mating-type loci of fission yeast
Thon, Genevieve & Klar, A., 1992, I: Genetics. 131, 2, s. 287-296 10 s.

Trypanosome variable surface glycoproteins: composite genes and order of expression
Thon, Genevieve, Baltz, T., Giroud, C. & Eisen, H., 1990, I: Genes & Development. 4, 8, s. 1374-1383 10 s.

Antigenic diversity by the recombination of pseudogenes
Thon, Genevieve, Baltz, T. & Eisen, H., 1989, I: Genes & Development. 3, 8, s. 1247-1254 8 s.

Genetic selection and DNA sequences of 4.5S RNA homologs
Brown, Stanley, Thon, Genevieve & Tolentino, E., 1989, I: Journal of Bacteriology. 171, 12, s. 6517-20 4 s.