

## FIGURE 1. Features of the X chromosome sequence.

From the following article:

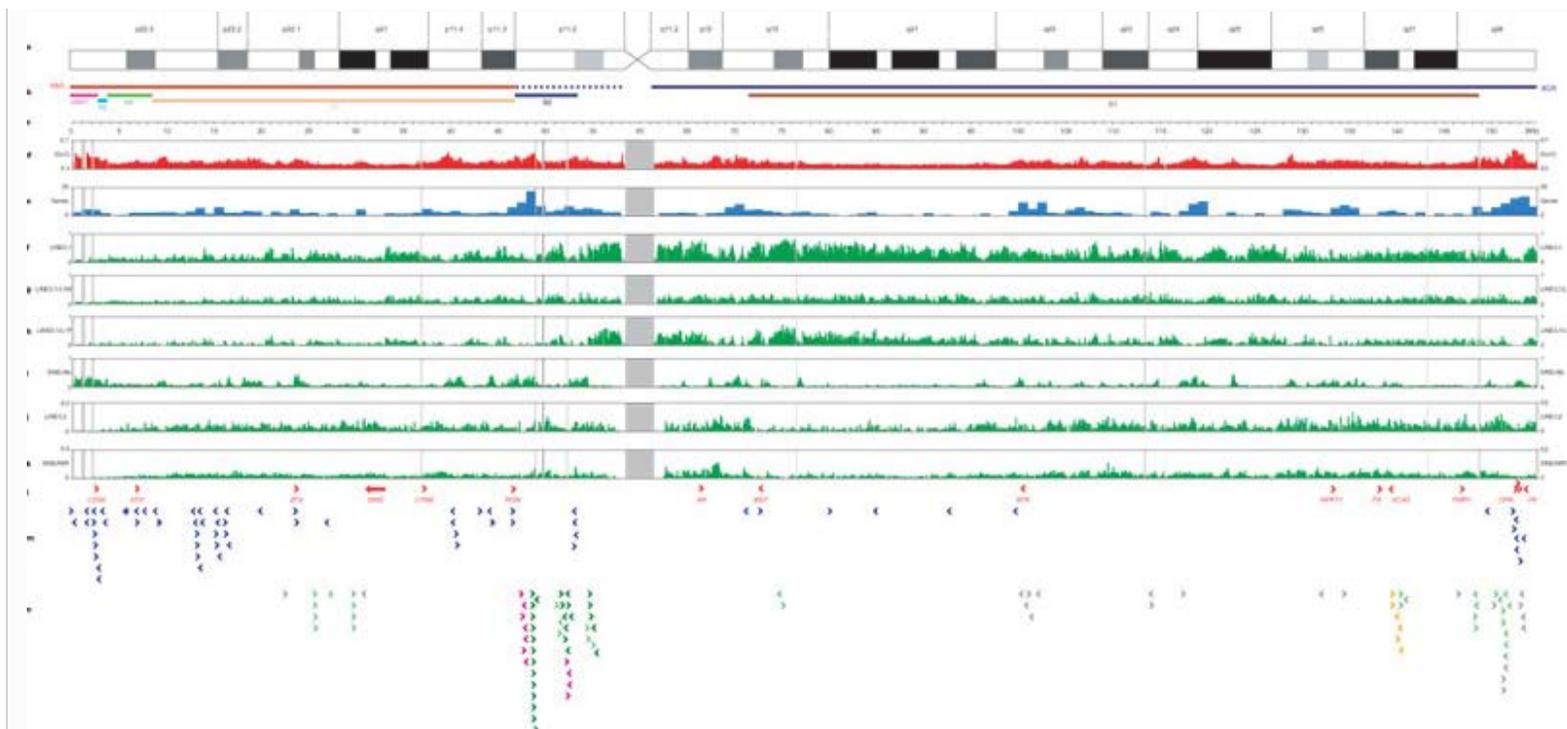
### [The DNA sequence of the human X chromosome](#)

Mark T. Ross, Darren V. Grafham, Alison J. Coffey, Steven Scherer, Kirsten McLay, Donna Muzny, Matthias Platzer, Gareth R. Howell, Christine Burrows, Christine P. Bird, Adam Frankish, Frances L. Lovell, Kevin L. Howe, Jennifer L. Ashurst, Robert S. Fulton, Ralf Sudbrak, Gaiping Wen, Matthew C. Jones, Matthew E. Hurler, T. Daniel Andrews, Carol E. Scott, Stephen Searle, Juliane Ramser, Adam Whittaker, Rebecca Deadman, Nigel P. Carter, Sarah E. Hunt, Rui Chen, Andrew Cree, Preethi Gunaratne, Paul Havlak, Anne Hodgson, Michael L. Metzker, Stephen Richards, Graham Scott, David Steffen, Erica Sodergren, David A. Wheeler, Kim C. Worley, Rachael Ainscough, Kerrie D. Ambrose, M. Ali Ansari-Lari, Swaroop Aradhya, Robert I. S. Ashwell, Anne K. Babbage, Claire L. Bagguley, Andrea Ballabio, Ruby Banerjee, Gary E. Barker, Karen F. Barlow, Ian P. Barrett, Karen N. Bates, David M. Beare, Helen Beasley, Oliver Beasley, Alfred Beck, Graeme Bethel, Karin Blechschmidt, Nicola Brady, Sarah Bray-Allen, Anne M. Bridgeman, Andrew J. Brown, Mary J. Brown, David Bonnin, Elspeth A. Bruford, Christian Buhay, Paula Burch, Deborah Burford, Joanne Burgess, Wayne Burrill, John Burton, Jackie M. Bye, Carol Carder, Laura Carrel, Joseph Chako, Joanne C. Chapman, Dean Chavez, Ellison Chen, Guan Chen, Yuan Chen, Zhijian Chen, Craig Chinault, Alfredo Ciccodicola, Sue Y. Clark, Graham Clarke, Chris M. Clee, Sheila Clegg, Kerstin Clerc-Blankenburg, Karen Clifford, Vicky Copley, Charlotte G. Cole, Jen S. Conquer, Nicole Corby, Richard E. Connor, Robert David, Joy Davies, Clay Davis, John Davis, Oliver Delgado, Denise DeShazo, Pawandeep Dhani, Yan Ding, Huyen Dinh, Steve Dodsworth, Heather Draper, Shannon Dugan-Rocha, Andrew Dunham, Matthew Dunn, K. James Durbin, Ireena Dutta, Tamsin Eades, Matthew Ellwood, Alexandra Emery-Cohen, Helen Errington, Kathryn L. Evans, Louisa Faulkner, Fiona Francis, John Frankland, Audrey E. Fraser, Petra Galgoczy, James Gilbert, Rachel Gill, Gernot Glöckner, Simon G. Gregory, Susan Gribble, Coline Griffiths, Russell Grocock, Yanghong Gu, Rhian Gwilliam, Cerissa Hamilton, Elizabeth A. Hart, Alicia Hawes, Paul D. Heath, Katja Heitmann, Steffen Hennig, Judith Hernandez, Bernd Hinzmann, Sarah Ho, Michael Hoffs, Phillip J. Howden, Elizabeth J. Huckle, Jennifer Hume, Paul J. Hunt, Adrienne R. Hunt, Judith Isherwood, Leni Jacob, David Johnson, Sally Jones, Pieter J. de Jong, Shirin S. Joseph, Stephen Keenan, Susan Kelly, Joanne K. Kershaw, Ziad Khan, Petra Kioschis, Sven Klages, Andrew J. Knights, Anna Kosiura, Christie Kovar-Smith, Gavin K. Laird, Cordelia Langford, Stephanie Lawlor, Margaret Leversha, Lora Lewis, Wen Liu, Christine Lloyd, David M. Lloyd, Hermela Louseged, Jane E. Loveland, Jamieson D. Lovell, Ryan Lozado, Jing Lu, Rachael Lyne, Jie Ma, Manjula Maheshwari, Lucy H. Matthews, Jennifer McDowall, Stuart McLaren, Amanda McMurray, Patrick Meidl, Thomas Meitinger, Sarah Milne, George Miner, Shailesh L. Mistry, Margaret Morgan, Sidney Morris, Ines Müller, James C. Mullikin, Ngoc Nguyen, Gabriele Nordsiek, Gerald Nyakatura, Christopher N. O'Dell, Geoffery Okwuonu, Sophie Palmer, Richard Pandian, David Parker, Julia Parrish, Shiran Pasternak, Dina Patel, Alex V. Pearce, Danita M. Pearson, Sarah E. Pelan, Lesette Perez, Keith M. Porter, Yvonne Ramsey, Kathrin Reichwald, Susan Rhodes, Kerry A. Ridler, David Schlessinger, Mary G. Schueler, Harminder K. Sehra, Charles Shaw-Smith, Hua Shen, Elizabeth M. Sheridan, Ratna Shownkeen, Carl D. Skuce, Michelle L. Smith, Elizabeth C. Sotheran, Helen E. Steingruber, Charles A. Steward, Roy Storey, R. Mark Swann, David Swarbreck, Paul E. Tabor, Stefan Taudien, Tineace Taylor, Brian Teague, Karen Thomas, Andrea Thorpe, Kirsten Timms, Alan Tracey, Steve Trevanion, Anthony C. Tromans, Michele d'Urso, Daniel Verduzco, Donna Villasana, Lenee Waldron, Melanie Wall, Qiaoyan Wang, James Warren, Georgina L. Warry, Xuehong Wei, Anthony West, Siobhan L. Whitehead, Mathew N. Whiteley, Jane E. Wilkinson, David L. Willey, Gabrielle Williams, Leanne Williams, Angela Williamson, Helen Williamson, Laurens Wilming, Rebecca L. Woodmansey, Paul W. Wray, Jennifer Yen, Jingkun Zhang, Jianling Zhou, Huda Zoghbi, Sara Zorilla, David Buck, Richard Reinhardt, Annemarie Poustka, André Rosenthal, Hans Lehrach, Alfons Meindl, Patrick J. Minx, LaDeana W. Hillier, Huntington F. Willard, Richard K. Wilson, Robert H. Waterston, Catherine M. Rice, Mark Vaudin, Alan Coulson, David L. Nelson, George Weinstock, John E. Sulston, Richard Durbin, Tim Hubbard, Richard A. Gibbs, Stephan Beck, Jane Rogers and David R. Bentley  
*Nature* **434**, 325-337(17 March 2005)

doi:10.1038/nature03440

[back to article](#)

Figure 1 : The DNA sequence of the human X chromosome : Nature



To view a larger version of this image [download the pdf](#) (126KB).

**a**, X chromosome ideogram according to Francke<sup>65</sup>. **b**, Evolutionary domains of the X chromosome: the X-added region (XAR), the X-conserved region (XCR; dotted region in proximal Xp does not appear to be part of the XCR), the pseudoautosomal region PAR1, and evolutionary strata S5–S1. **c**, Sequence scale in intervals of 1 Mb. Note that correlation between cytogenetic band positions and physical distance is imprecise, owing to varying levels of condensation of different Giemsa bands. **d**, (G + C) content of 100-kb sequence windows. **e**, Number of genes in 1-Mb sequence windows (pseudogenes not included). **f–k**, Fractional coverage of 100-kb sequence windows by interspersed repeats: L1 repeats (**f**), L1M subfamilies of L1 repeats (**g**), L1P subfamilies of L1 repeats (**h**), *Alu* repeats (**i**), L2 repeats (**j**), MIR repeats (**k**). Vertical grey lines in **d–k** represent gaps in the euchromatic sequence of the chromosome. Grey bar centred at approximately 60 Mb shows the position of the centromere. **l**, A selection of landmark genes on the chromosome. *OPN* refers to the three opsin genes in the reference sequence, which are organized as follows: cen-*OPN1LW*-*OPN1MW*-*OPN1MW*-tel. **m**, Genes that escape from X-chromosome inactivation as previously identified<sup>48</sup>. **n**, Cancer-testis antigen genes, belonging to the *MAGE* (light green), *GAGE* (dark green), *SSX* (magenta), *SPANX* (orange) or other (grey) CT gene families. For the genes in **l–n**, arrows indicate the direction of transcription.

▲ Figures & Tables index

Next figure ►

◀ back to article

Nature ISSN 0028-0836 EISSN 1476-4687

About NPG

Privacy policy

Naturejobs

Search:

Contact NPG

Legal notice

Nature Asia

RSS web feeds

Accessibility statement

Nature Education

Help

Terms



© 2012 Nature Publishing Group, a division of Macmillan Publishers Limited. All Rights Reserved.  
partner of AGORA, HINARI, OARE, INASP, ORCID, CrossRef and COUNTER