

Yarbrough, Cathy (NHGRI)

From: Collins, Francis (NHGRI)
Sent: Tuesday, November 23, 1999 5:38 AM
To: Yarbrough, Cathy (NHGRI)
Cc: Hudson, Kathy (NHGRI)
Subject: RE: chromosome 22

Here goes:

- Reading this paper gave me chills (literally, it did)
- To see the entire sequence of a human chromosome for the first time is like seeing an ocean liner emerge out of the fog, when all you've ever seen before were rowboats.
- Until now, the ability to sequence an entire chromosome was just a hypothetical. No one knew if there would be insurmountable problems that prevented the assembly. Having done this for chromosome 22 tells us we will be able to finish the human genome in another two or three years.
- The sequence reveals unexpected long-range complexity of the chromosome, with an elaborate array of long range repeats near the centromere. These repeats almost certainly explain the tendency of this chromosome toward rearrangements, leading to human disorders such as the DiGeorge syndrome and the cat eye syndrome.
- The sequence of the whole chromosome allows one to look at gene density (it's not constant across the chromosome) and gene number. Computer analysis of the sequence allows the prediction of 545 genes with certainty, and 200 - 300 more are likely. This correlates well with previous estimates of 80,000 genes in the genome altogether.
- The analysis unexpectedly reveals several regions where recombination is increased, and others where it is suppressed
- and these will probably play important roles in health and disease.

That's it for now, I'll try to come up with others.

FC

-----Original Message-----

From: Yarbrough, Cathy (NHGRI)
Sent: Monday, November 22, 1999 9:18 AM
To: Collins, Francis (NHGRI)
Subject: chromosome 22
Importance: High

Francis,

I'd appreciate your sending me your comments by e-mail. I'll incorporate them into our news release and send them along to the Sanger public relations folks. They just responded "yes" to my request to include a quote or two from you in their news release. Cathy

Cathy Yarbrough
Director of Communications and Public Liaison
National Human Genome Research Institute
National Institutes of Health
301-594-0954
cyarbrou@mail.nih.gov <<mailto:cyarbrou@mail.nih.gov>>

-----Original Message-----

From: Collins, Francis (NHGRI)
Sent: Sunday, November 21, 1999 7:16 PM
To: Yarbrough, Cathy (NHGRI)
Cc: Hudson, Kathy (NHGRI)
Subject: RE: chromosome 22

Sorry, I'm a bit behind on e-mail! Would it be OK for me to send you some bullets to incorporate? I need to have the paper in front of me to do that, will try to get to it tomorrow.

FC

-----Original Message-----

From: Yarbrough, Cathy (NHGRI)
Sent: Thursday, November 18, 1999 11:59 AM
To: Collins, Francis (NHGRI)
Cc: Hudson, Kathy (NHGRI)
Subject: chromosome 22

Francis, may I interview you, or if you prefer, could you e-mail me some comments about why completing the