GENETICS

HUMAN PARTHOGENESIS

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Stem cell researchers now believe that the human ES cell line SCNT-hES-1 (you may remember Hwang who claimed having first cloned a human by somatic cell nuclear transfer) is derived by parthogenesis – the result of a dividing human oocyte.
They test the origin of the Hwang cells by genome-wide SNP analysis as the initial DNA fingerprint was doubtful with maternal sharing of all 40 informative marker but 32 being heterozygous. Conventional wisdom would expect a duplication of the haploid genome and therefore all marker being homozygous for the one or the other maternal allele. It seems, however, at least in mouse parthogenesis experiments, that sister chromatide during meiosis II do not fully segregate – leaving the centromeres homozygous while the rest gets heterozygous.
I wonder, however, why their map resolution is so poor while having 500K datapoints or so. The known gaps of the 500K array are missing and only chromosome 7 and X look like like expected (curiously the authors now need to explain this by a X0 karyotype and a 7 loss/duplication event).
If we accept their the meiosis II non-disjunction theory, there are still some centromeres like 5cen and 12cen that contradicts them. The number of double recombinants is also excessive. Why arenÂ´t there any data showing concordance of this cell line with their maternal origin? Why havenÂ´t recombination events of ALL chromosomes been compared the Kong map? So far SCNT-hES-1 is just a strange oocyte derived cell line with multiple defects obtained under the influence of an obscure transcription factor mix (possibly fused with some other somatic maternal cells?) This is even not parthogenesis at all as the definition

> A form of reproduction in which an unfertilized egg develops into a new individual.

requires a new individual not a cell line, yea, yea.