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Developmental instability in mouse conceived by *in vitro* fertilization

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Assisted reproductive technology (ART), including *in vitro* fertilization (IVF), is a key methodology for supporting genetic strains of laboratory animals, which number overloads the capacity of breeding facilities. Also IVF is a central technology in genomic editing. Since IVF could be reason for phenotypic shifts in next generations, study of the IVF induced epigenetic effects became actual for breeding of laboratory and domestic animals, as well as human reproduction.

In experiments on outbred strain mouse CD1 we study variability of methylation rate, gene expression, metabolic process, spontaneous behavior and fluctuating asymmetry (FA) in bilateral structure as an indicator of developmental instability. IVF leads to increase of developmental instability detected by different indicators, which were manifested at all stage of ontogenesis – from preimplantation development up to mature age.

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