

The origin of aneuploidy

Eugene Pergament, USA

Aneuploidy is the major genetic cause compromising pregnancy outcome, expressed either in viability failure and/or somatic and mental maldevelopment. The underlying molecular basis for the origin of aneuploidy is a matter of dispute between the roles of reduced cohesin complex and failure of microfibrils to properly attach to the centromere of chromosomes. More significantly, what has not been identified is the specific molecular components from either of these systems, each of which is comprised of multiple, integrated, interactive biochemical reactions. Specific examples will be cited. Defining the molecular processes leading to aneuploidy will provide entry to the control of chromosome distribution during meiosis and thereby, possible prevention of aneuploidy prior to conception.