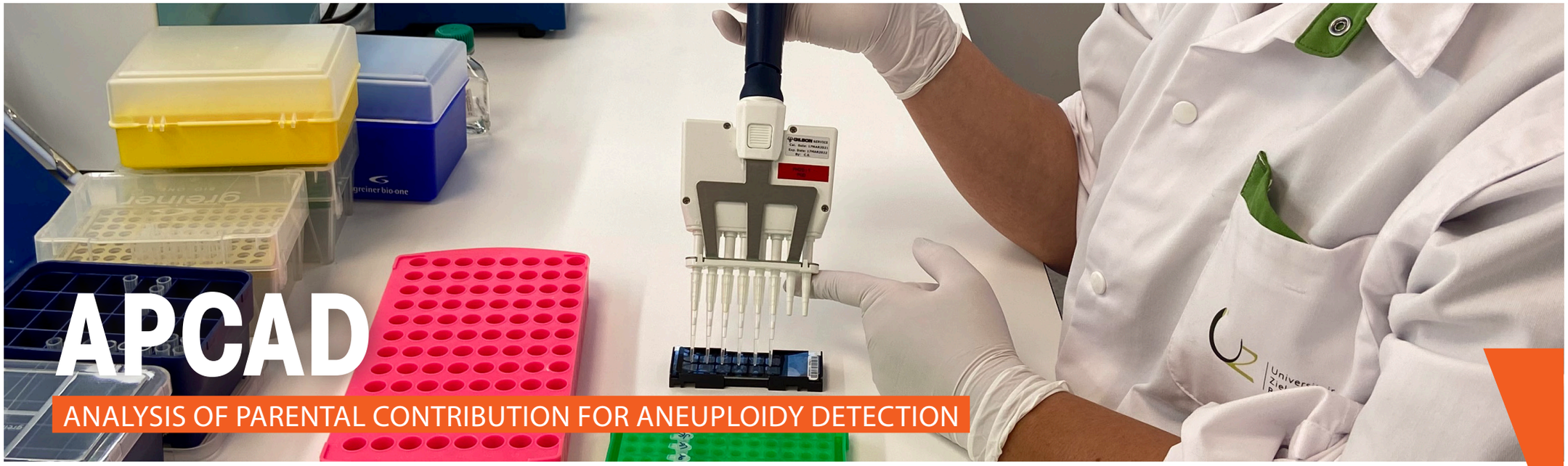

APCAD

ANALYSIS OF PARENTAL CONTRIBUTION FOR ANEUPLOIDY DETECTION

At the Center for Medical Genetics at the UZ Brussel, we developed an innovative method called 'Analysis of Parental Contribution for Aneuploidy Detection' (APCAD). This computational method can be used to more accurately detect chromosome abnormalities in very early embryos. It is a key element in a new and improved version of preimplantation genetic testing for aneuploidy (PGT-A); PGT-A version 3.0. By applying the technique **we aim to improve implantation rate and reduce the proportion of miscarriages during in vitro fertilization (IVF) treatments.** In addition, it helps couples to gain insight in the genetic quality of the available embryos and their prognosis.

HIGHLIGHTS

- **Most accurate diagnosis**: our method outperforms standard sequencing techniques. Haploidy, triploidy, UPD and <<1Mb-sized deletions can be detected. Mitotic and meiotic chromosome abnormalities can be distinguished and mosaic abnormalities can be identified
- **Limited samples required**: compared to haplotyping techniques it has the advantage that only DNA from the couple is required. Relatives do not need to be contacted
- **Prove the origin of the embryo**: the method provides an additional barrier against gamete or embryo mix-up
- **High potential for machine learning**

VUB/UZ Brussel is **actively looking for companies interested in licensing the patent pending APCAD technique** for implementation in their platform

pick the best embryo

accurate diagnosis

prove embryo origin

patent application

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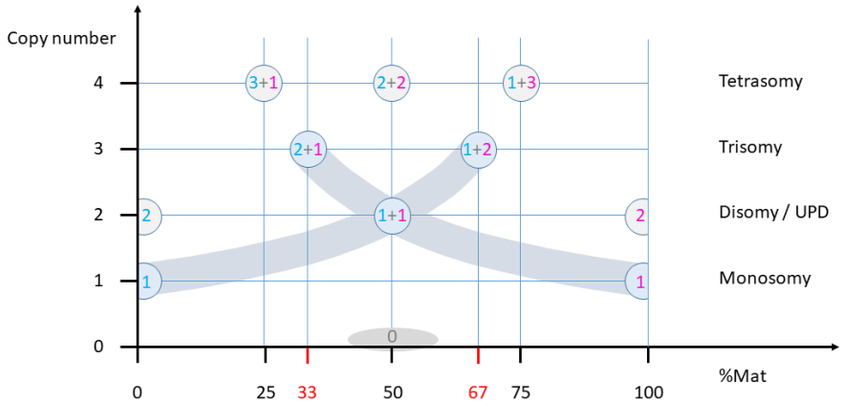
EXPERTISE

Since the early 1990s, the UZ Brussel has been pioneer in fertility treatments and PGT worldwide, with an impressive track record of scientific publications. The invention of ICSI (Intracytoplasmic Sperm Injection), the early implementation of PGT (Preimplantation Genetic Testing), the use of testicular sperm amongst others have been milestones in the field of reproductive medicine.

The research group Reproduction and Genetics of the UZ Brussel and the VUB with its specific know-how about embryo laboratory techniques, single cell genetic testing and sequencing approaches can be called a highly skilled and trustworthy partner.

SOCIAL ENGAGEMENT

By working together with companies involved in biotechnology, we want to bring our expertise to a broader public and improve the quality of care for many couples confronted with fertility problems.



Detection of the proportion of maternal copies (%Mat) combined with copy number detection allows a more reliable detection of chromosome anomalies compared to copy number detection only

Picture of a blastocyst, a five day old embryo. Biopsy of trophectoderm cells (future) placenta does not harm the embryo

Universitair Ziekenhuis Brussel

Centrum voor Medische Genetica