



OPS

THE ORIGINAL OPEN PULLED STRAW METHOD



[FROM VITAVITRO]

OPS FROM VITAVITRO

Widespread application of vitrification for cryopreservation of oocytes and embryos is one of the most significant achievements in human assisted reproductive technology (ART) during the past decade.

The Open Pulled Straw (OPS) was the first purpose designed tool for ultra-rapid vitrification. Introduced by Professor Gábor Vajta in 1998, OPS is recognized as one of the best high-rate cooling-warming vitrification methods, widely respected for its efficiency, practicality and versatility.

To date , OPS has resulted in:

- The first human baby after oocyte vitrification
- The first cloned animal after embryo cryopreservation
- The first calf after cryopreservation of immature oocytes
- The best survival-developmental rates after cryopreservation of human ES cells.

In collaboration with Professor Vajta, VitaVitro is proud to present the long awaited, complete OPS kit, including straws, media, related tools and technology transfer.

The VitaVitro OPS kit is also the only commercially available vitrification method that offers direct online consultation with the creator of the technique, providing a unique guarantee for efficiency and reliability.

ADVANTAGES OF THE OPS METHOD

- Utilises capillary action for simple loading with a defined solution volume.
- Protects samples from evaporation and mechanical damage during handling.
- Simplifies warming and dilution into a single step and utilizes the mild pressure from the expanding warm air to ensure safe expelling .
- The first open vitrification technology confirmed by independent experts to eliminate the danger of cross-contamination during storage by sealing the OPS into a pre-cooled container straw.
- Full microscopic control of both loading and expelling means there is zero risk of losing samples.

THE FULL OPS KIT

STRAW SET

- ✓ Open Pulled Straw (OPS)
- ✓ Container straw for sterile storage

QUALITY ASSURED

- ✓ Each lot undergoes evaluation for pH, osmolality, and endotoxin levels, as well as sterility and mouse embryo testing, where applicable.



MEDIA FOR VITRIFICATION

- ✓ Human Holding Medium (HHM) 1.5 ml
- ✓ Human Vitrification Medium 1 (HV1) 1.5 ml
- ✓ Human Vitrification Medium 2 (HV2) 1.5 ml

MEDIA FOR WARMING

- ✓ Human Warming Medium 1 (HWM1) 2.0 ml x 2
- ✓ Human Warming Medium 2 (HWM2) 1.5 ml
- ✓ Human Holding Medium (HHM) 2.0 ml

- Highly efficient for human MII-phase oocytes and embryos of different stages of development including early cleavage stages, morulae, and blastocysts.
- Uniquely suited for cryopreservation of biopsied or zona-free embryos due to the protection provided by the straw, the defined solution volume, the lack of adhesion to surfaces and trauma-free loading/ expelling.
- The most efficient method for cryopreservation of human embryonic stem cells.

REFERENCES

- Bielanski A and Hanniman A. *Reprod Fertil Dev* 19: 232, 2007
- Reubinoff BE et al. *Hum Reprod* 16: 2187-94, 2001
- Tecirlioglu RT et al. *Reprod Fertil Dev* 15: 361-6, 2003
- Vajta G et al. *Mol Reprod Dev* 51:53-8, 1998
- Vieira AD et al. *Cryobiology* 45: 91-4, 2002
- Kuleshova LL et al. *Cryobiology* 43: 21-31, 2001

PROFESSOR GÁBOR VAJTA

Prof. Gábor Vajta is a worldwide renowned expert in cryopreservation, embryo culture and somatic cell nuclear transfer.

His first publication on OPS in 1998 is one of the most cited papers in reproductive cryobiology.

With 12 review articles and numerous hands-on workshops and lectures worldwide, Professor Vajta has contributed substantially to the general acknowledgement that vitrification is the optimal approach of cryopreservation to the human oocytes and embryos.

VitaVitro is proud to collaborate with Professor Vajta in delivering the first full and complete OPS system.



Shenzen VitaVitro Bio-tech, Ltd.

R601, Building B,

Hai Ke Xing Tech Park,

Pingshan, Shenzhen 518118,

P.R.China

Tel: +86 755 85235226

Fax: +86 755 85235226