

EmbryoGen®

Helping miscarriage patients

- New medium with GM-CSF growth factor
- Based on the world's largest fertility media study (1,332 patients)
- Significantly improved ongoing implantation in women who have previously experienced miscarriage



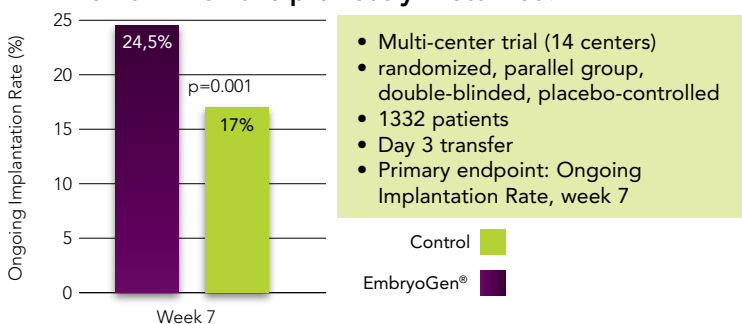
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Helping miscarriage patients

EmbryoGen® presents a new solution for women who have suffered from miscarriage. EmbryoGen® contains the cytokine growth factor *Granulocyte-Macrophage Colony-Stimulating Factor* (GM-CSF), which has been documented to give significant benefit to this difficult group of patients.

The world's largest IVF trial

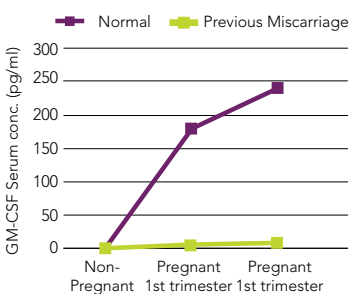
ORIGIO has completed the world's largest trial on IVF media to document efficacy of GM-CSF. Results showed a highly significant effect of **44% relative improvement in ongoing implantation rate (p=0.001) in women who have previously miscarried.**



Cytokines and miscarriage

Miscarriage is often caused by imbalances in the endocrine and immune systems, as well as inferior development of embryo, placenta and uterus. This causes embryo-uterus communication failure, poor regulation of implantation, and finally rejection of the implanted embryo.

Cytokines are important regulators of all the above processes. Previous studies show GM-CSF significantly improves embryo and placental development.



Miscarriage patients have cytokine imbalances

GM-CSF is upregulated during pregnancy in healthy women. In recurrent miscarriage patients this system malfunctions, and GM-CSF levels remain low (Perricone *et al* 2003). Similarly, other cytokines are shown to be abnormally expressed

in women with recurrent miscarriage (incl. CSF1, IL-1, IFN γ , TNF α , TGF- β , LIF, IL-4 and IL-6 1), linking cytokine imbalance to miscarriage.

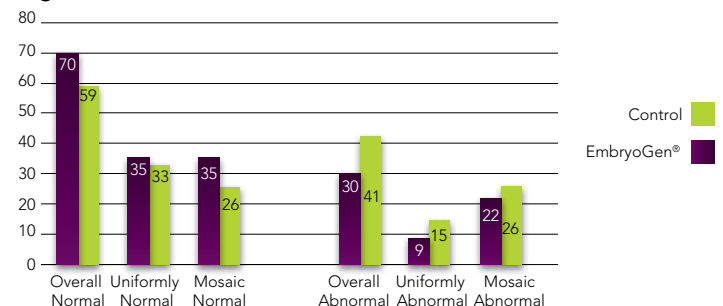
GM-CSF has broad function

GM-CSF is a wide-function cytokine shown to bring IVF embryos closer to *in vivo* standards and improving their overall capacity to implant and remain implanted. This includes:

- Follicular development
- Embryo metabolism
- Blastocyst development, cell growth, apoptosis
- Fetal growth, survival, fertility

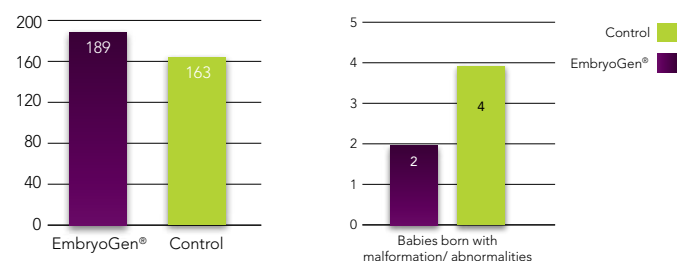
Safety

Chromosome (FISH) analysis of GM-CSF cultured embryo showed no negative effect on chromosomal constitution and that it is safe to culture human embryos in GM-CSF. (Agerholm *et al* 2010)



Babies born after EmbryoGen® culture

A total of 352 children have been born from the trial to date (data incomplete, June 2011). Miscarriage and congenital disorders in both test and control group are lower than what is typically reported for IVF (publication in prep).



Catalogue No.

12030003

EmbryoGen®

3 ml

Find more information on EmbryoGen®

On www.origio.com, you can read more information the product and trial. You can also find out who your local ORIGIO distributor is.