

Biomarkers of embryo viability

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With the move to single embryo transfer there is an ever-increasing demand to identify biomarkers that reflect embryo viability. Developments in metabolomic and proteomic platforms have facilitated the non-invasive analysis of individual embryos, providing new insights into embryo physiology, and how the embryo interacts with its environment. Specific nutrients, such as glucose, have now been linked to the viability of the post-compaction stage human embryo. Furthermore, particular biomarkers appear to be related to the morphokinetics of the embryo. It is envisaged that the clinical implementation of such non-invasive embryo diagnostics will employ microfluidic devices for the accurate and rapid analysis of metabolites and/or peptides in human embryo culture media.