

International Conference and Exhibition on **Tissue Preservation & Bio-banking**

July 20-22, 2015 Barcelona, Spain



William A Ritchie

Monash Biomed, UK

Freeze Drying of Cells

Mammalian cells as well as gametes and embryos have been stored frozen under liquid Nitrogen for many years. Sperm was first cryopreserved around 1953. Freezing and storage of tissues and cells in liquid nitrogen at -196°C prevents biological activity of the tissue including activity which would result in cell death. Storage under liquid nitrogen is thought to provide indefinite safe storage so long as the temperature does not rise above the "Glass Transition" point which occurs at -136°C , this is the temperature where biological activity is seen to start occurring and so deterioration begins.

Can tissues be stored safely in a dry state without damage occurring to the cells? If this can be perfected it would cut the cost of biobanking considerably!

Biography

I worked at the Roslin Institute for 34 years and was involved in the Cloning project. I was the embryologist who cloned the first animals from cultured cells Morag and Megan which was the enabling technology which led to the birth of Dolly the sheep the following year. The project then progressed to produce cloned sheep which produced "human blood factor 9". Subsequently I used my skills as an embryologist to develop several methods of producing transgenic animals. I took early retirement from Roslin and travelled extensively teaching some of the techniques I had developed at Roslin. Notable projects have been to act as consultant on the project in Dubai to produce the first cloned camel. I also acted as consultant to a project in Kenya producing the first cloned native breed of cattle.

bill@RoslinEmbryology.co.uk

Notes: