

Optimizing pH in Clinical Embryology

It was good to see many of you at SIRT in March. It was a terrific turnout.

Following on from the opportunity that I had to address you on SAGE Media I have included an extract from an article on optimising pH in embryos. The article by Thomas Pool appears in The Clinical Embryologist, Vol. 7, Iss 3. The complete article is available via email for those of you who are interested.

The long awaited 5 well culture dish from Biogenics will be available this quarter. Please see the feature on page 2.

Another featured product for this quarter is our range of pipettes from Humagen specifically the Pasteur Pipettes. Further information is available on page 3 or by calling 03 9822 5911.

Simon Kent, National Sales Manager

Optimising pH in Clinical Embryology, Thomas B. Pool, Ph.D, HCLD, Fertility Centre of San Antonio

Human Embryos and pH

We are all accustomed to adjusting the initial pH of culture media to a given value (even if we don't do it, at least the company that manufacturer the medium did so and provided us that value). Once we put a medium into use in the incubator, we tend to monitor pH but, unfortunately, we do so in an indirect and often unreliable way – by measuring incubator (CO₂).

Several companies that supply embryo culture

media have elected to omit from their media the one simple and direct measure of significant pH change we have as practicing embryologists – the colorimetric pH indicator phenol red.

It was once feared that estrogenic properties were imparted by the chemistry of the phenol ring. This drove some people to omit phenol red, but has since been refuted.

So, in practice, we establish an operational range for extracellular pH (pH_e) and work in some way to keep it there during embryo culture. We do this for several reasons.

First, we know that extremes in pH_e affect macromolecular confirmation, influence enzymatic activities and modulate nutrient availability. Recall that amino acids are zwitterionic in nature – they will dissociate either as an acid or base depending upon surrounding pH.

But by far the most important reason to measure and control pH_e is because it strongly influences intracellular pH (pH_i), in human embryos. This is of interest because not all cells show an influence of pH_e upon pH_i, or at least not a strong one. For example, certain free-living protozoa will hold a stable internal pH of 7.15 over a range of pH_e of 5.75 to 7.4 (Gillies, 1981). Yeast cells are much the same in this property but mammalian cells do not tend to do this. As will be seen oocytes do it poorly and human embryos have their limits as well.

Coming Soon.....



BIOGENICS

5 Well Culture Dish

- 4 Wells with a 5th centre Well for sorting or humidification
 - MEA validated on all lots
- Adjustable lid can be vented during incubation or locked for transportation
- Individually packed and supplied sterile

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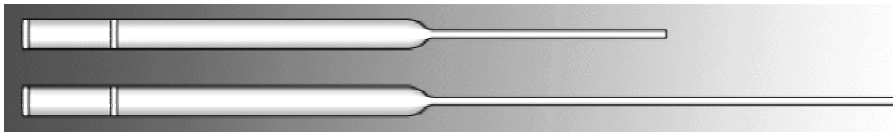
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Sizes: 14.1cm or 22.9cm

Box of 120 – 4 packages of 30 pipettes

Case of 1000 – 20 trays of 50 pipettes

Staff Changes

After more than 3 years as an Account Manager in NSW Susie Blum is heading interstate, and home, to Tasmania to take over the Account Manager role.

Susie takes over the territory from Simon Kent who will continue to service Queensland and part of Victoria.

Susie starts in Tasmania in April and will be around to meet everyone in the very near future.

Taking over the NSW territory from Susie will be new employee Bree Tozer.

Bree comes to us with a strong sales and business development background in the retail, automotive and real estate sectors.

Bree starts with us in April and after a weeks training in Melbourne will be out to see all of her new clients in the NSW territory she will be covering. Welcome Bree!

**Need more information?
Call Gytech on 03 9822 5911 or
visit our website www.gytech.com.au**



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