Protein Crystallization News

Summer 2010

Temperature Control in the Palm of Your Hand

In This Issue

Use Temperature as a Crystallization Variable

The use of temperature as an additional crystallization variable has many advantages:

- Useful for modifying solubility and super saturation conditions
- Increases the probability of finding better crystallization conditions
- Can prevent denaturation of temperature sensitive proteins

A careful use of temperature can aid in controlling crystal nucleation, growth and dissolution of defects on the surface of the crystal. Temperature may also be important in phase separation in detergents solutions, which are used in the crystallization of membrane proteins*. More information available on this poster – Portable Temperature Controlled Microplate for Protein Crystallization.

*Garavito, R. M. and Picot, D. 1991. Journal of Crystal Growth, vol. 110, no. 1-2, pp. 89-95..

TG200 Hotel System

The TG200 System provides a convenient hotel system enabling control of up to five (5) TG40 Systems simultaneously from a single PC.

- Enables multi-user experiments
- Independent Temperature Programs

The TG200 Hotel System enables individual control of up to five (5) TG40 Microplates from a single PC interface. Each TG40 Microplate provides temperature control for optimization and screening of crystallization temperatures in a portable, hand-held device. TG200 info here.

TG40 System

Launched last year at the ACA Meeting, Centeo Biosciences TG40 System for protein crystallization was the first system designed specifically to enable optimization and screening of crystallization temperatures in a portable, hand-held device. The TG40 System enables:

- Rapid screening of experimental temperature conditions from 4°C to 60°C.
- Portable temperature control maintains set temperature during observation and imaging.

The TG40 System enables real-time temperature monitoring during

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optimization. This exciting new feature in the TG40 Control Software reports that the set temperatures were maintained during the experiment. The real-time monitoring enables plotting of the temperatures of each row for a visual display of temperatures during the experiment. During the experiment the temperatures can be ramped up and down as needed to optimize the crystallization results.

Meetings

You can see the TG200 Hotel System, the TG40 System and meet with Centeo Biosciences staff at these meetings.

ACA – Chicago, July 24-27, Booth #422

We are also presenting a poster titled: Portable Temperature Controlled Microplate for Optimization of Protein Crystals, Monday, July 26: Poster Session II 05:30pm-07:30pm

ECM – Darmstadt, August 29, September 2, Booth #22

ICCBM13 – Dublin, September 12-16, Booth #5