



# Douglas Instruments

Success in protein crystallization

For more information:

Request a demonstration  
for your lab

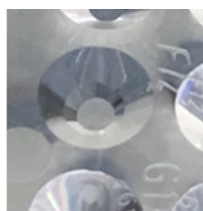
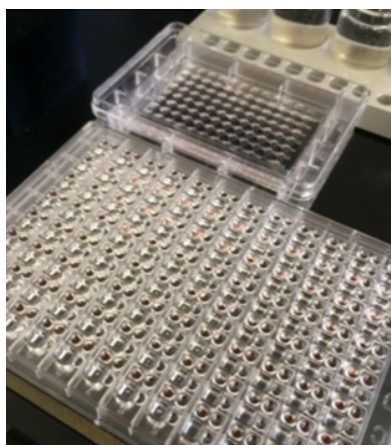
Carolyn@douglas.co.uk

Dear Stefan

The combined microbatch-under-oil and vapor diffusion screening experiment script for Oryx robots is a great starting place for initial screening of your protein.

### One experiment, two different methods:

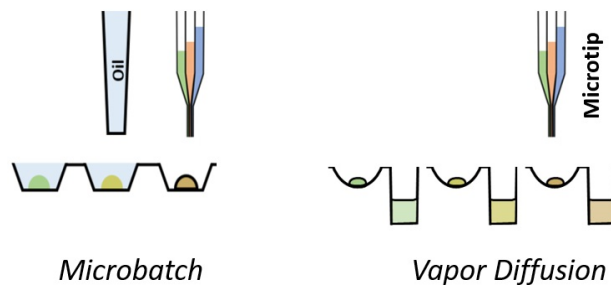
- **Oryx robots** can dispense to both microbatch and vapor diffusion plates in the same run, saving time and helping to overcome the psychological barrier of trying multiple methods
- Only 19.6  $\mu\text{L}$  protein is required for a combined screen (with drop size 100 + 100 nL for both sitting drop and microbatch screens)
- For microbatch, paraffin oil is dispensed by the robot to cover the drop
- Results from microbatch can be used to establish the phase diagram of your protein
- **Seeds stock** or additive ingredients down to 5 nL can be dispensed to the drops



### Liquid-liquid vs liquid-air:

- **Microbatch-under-oil** drops have a liquid-liquid interface. This can reduce protein loss at the surface of the drop
- Vapor diffusion drops have a liquid-air interface. Protein is often lost at the surface of the drop and can denature. Sometimes this can result in a skin forming on the surface of the drop
- Liquid-liquid interfaces are also more suitable for in-plate **DLS measurements** as less

light is scattered from the drop surface



### Coming in 2024 - a new plate for Microbatch:

- We are excited to announce a new plate for microbatch-under-oil is currently under development
- Details will be announced soon

### Conferences:

Douglas Instruments is attending the following meetings:

#### IUCr 2023, Melbourne



22 August - 29 August 2023

#### Visit booth #8 for:

Live demonstrations

rMMS microseeding toolkits

Updates about our latest projects including crystallization methods for serial crystallography.

### Recently published research using Oryx protein crystallization robots:

#### Structural and functional investigation of a fungal member of carbohydrate esterase family 15 with potential specificity for rare xylans

Mazurkewich, S., Scholzen, K.C., Bruschi, R.H., Poulsen, J.C., Theibich, Y., Hüttner, S., Olsson, L., Larsbrink, J. and Lo Leggio, L., 2023.

Acta Crystallographica Section D: Structural Biology, 79(6).

#### Metal-dependent enzyme symmetry guides the biosynthetic flux of terpene precursors

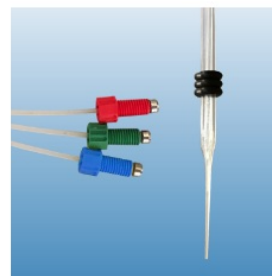
## Products available from Douglas Instruments



Oryx Robots



Crystallization Plates



Oryx Microtips

Request more information



Douglas Instruments | Douglas House, East Garston, Hungerford, RG177HD United Kingdom

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