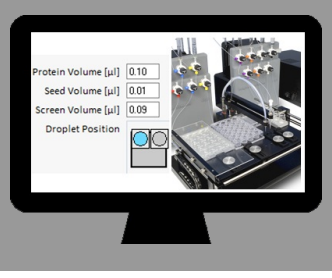
**For more information:**

Request a demonstration or seminar for your lab

**Carolyn@douglas.co.uk**




# Douglas Instruments

Success in protein crystallization

Dear Crystallographer

**Use less protein... explore more crystallization space...**

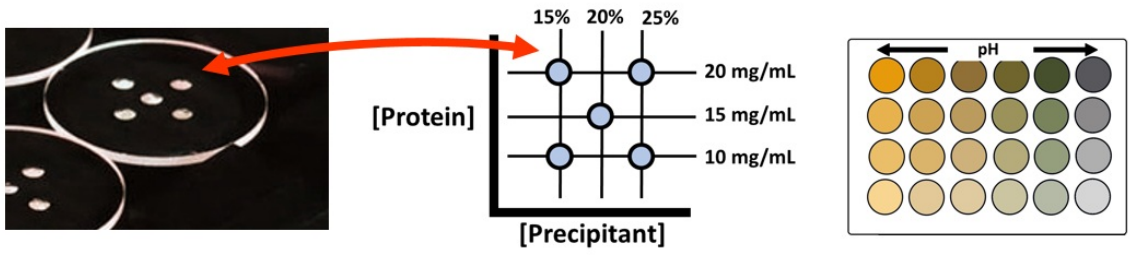
Save protein and increase drop accuracy and reproducibility by using an **Oryx robot** for screening and optimization. Because **almost no protein is wasted** by the robot more experiments can be dispensed and more crystallization space can be covered.

**Use less seed stock**

Seed stock is very valuable and for **rMMS screening experiments** it's best to use a high concentration of seed stock, so it's important not to waste seed stock.

**Great for scaling up too**

Drops are accurately dispensed using the Oryx's microtip, which can dispense volumes from 5nL** to 8 µL. Up to 5 drops can be dispensed to hanging drop cover slides allowing "mini-optimizations" in each well!




**Crystal production and harvesting**

For production of a large number of similar sized crystals, adding seed stock to the drop is an ideal way to improve reproducibility. There's an experiment script for **microseeding optimization** that finds the correct dilution of seed stock for up to 8 hit conditions on a single plate.

**such small volumes are only recommended for seeding experiments

Oryx protein usage

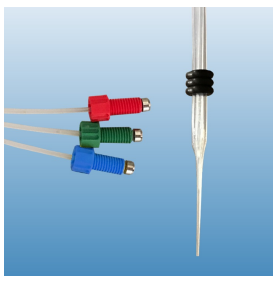
| Method | Min drop volume | Max drop volume | Total protein required: 24 well optimization 0.2+0.2 µL | Total seed stock required: 24 wells, 20 nL |
|---|---|---|---|---|
| Hanging drop | 100+100 nL | up to 8+8 µL | 5 µL | 0.5 µL |
| Sitting drop | 100+100 nL | up to 8+8 µL | 5 µL | 0.5 µL |
| Microbatch-under-oil | 100+100 nL | up to 8+8 µL | 5 µL | 0.5 µL |

Request more information

## Products available from Douglas Instruments

Oryx Robots


Crystallization Plates



Oryx Microtips

## Conferences:

Douglas Instruments is attending the following meetings:

**BCA spring meeting 2022, Leeds, UK**
11 April - 14 April 2022

**ACA 2022, Portland, USA**
30 July - 2 August 2022

## Recently published research using Oryx protein crystallization robots:

**Microbial enzymes induce colitis by reactivating triclosan in the mouse gastrointestinal tract**

Zhang, Jianan, et al., 2022.

*Nature Communications, 13(1), pp.1-14.*

**Elucidating the 3D Structure of a Surface Membrane Antigen from Trypanosoma cruzi as a Serodiagnostic Biomarker of Chagas Disease**

Di Pisa, Flavio, et al., 2022.

*Vaccines, 10(1), p.71.*