

Crystallization Improvements

Date: 10.15.03 ; 02/06/06

Author: R. Pufan

Edited by: J. Jancarik

Reviewed by: I.Ankoudinova

Materials/Reagents/Equipment	Vendor
Materials	
Crystallized protein	
24 well VMX plates	Hampton Research
Reagents	
Stock solutions of components found in the crystal hit solution	

Procedure

1. Evaluate the Corning plates set up on the Hydra Plus One robot or Phoenix. Determine the best hit(s) that gave crystals.
2. Reset the same condition in a 1 μ l plus 1 μ l drop in a hanging drop in a 24 well plate in order to see if similar results can be obtained at a larger scale.
3. Based on the composition of the reservoir and on the appearance of the crystals observed in step 2, there are several changes that can be done to improve the quality of the crystals:
 - Vary the pH
 - Vary the precipitant (i.e. PEG) concentration
 - Vary the salt concentration
 - If there are many hits where PEG is the precipitant and there is enough protein, PEG/Ion screen (Hampton Research) should be set up.
4. If no crystals are obtained in a new drop, try seeding using the old drop in which crystals were formed.
5. If the drops cannot be reproduced in a 24 well plate, try setting in a 96 well Corning plate.