Crystallization Solution B Protocol

Goal: Preparation of a Crystallization Solution.

◼ Created from one or more chemicals without a buffer

◼ The pH does not need to be adjusted

Step 1: Identification of the crystallization solution characteristics.

The required component concentration(s) can be found in the production report (see example in Table 1).

Step 2: Calculation of the amount of each chemical required to prepare 1 liter of stock solution.

Amount required in g = molarity (M) x FW x liters of solution

Using the example in Table 1:

Amount of chemical A required in g = 1.2 x 150.00 x 1 = 180.00 g

Amount of chemical B required in g = 0.5 x 250.00 x 1 = 125.00 g

Step 3: Crystallization solution preparation (1 liter).

1. **Weigh the required amount(s) of chemical(s) into a beaker.**

2. **Add water to 95% of the final volume (~ 950 ml) and stir until all components are completely dissolved.**

3. **Add water to give a final volume of 1 liter.**

4. **Filter the crystallization solution using a 0.22 μm filter.**

5. **Transfer the solution to the desired format (e.g., 24- or 96-well plate) in a sterile environment.**

Table 1. Identification of the Crystallization Solution characteristics.

Formulation	Chemical FW
1.2 M Chemical A	150.00
0.5 M Chemical B	250.00

The value of a chemical's formula weight (FW) is the sum of the atomic weights of the atoms found in one formula unit (including its hydration state) of an ionic compound. For other information about each chemical, please refer to the production report specific for each solution.

Things to remember:

◼ All chemical information can be found in the production report for each solution.

◼ Amount of chemical required for each solution is calculated thus:

If concentration is given as X M:
    Amount in grams = X x FW x FV (liters)

If the concentration is given as X% v/v:
    Volume required = X ml per 100 ml

If the concentration is X% w/v:
    Amount in grams required = X g/100 ml

Units Definition

M: Molarity of chemical

FV: Final volume of solution

FW: Formula weight of chemical