

Heterokaryons (cell fusions)

Fusing cells is one method for quickly introducing a particular protein into a cell at reasonable levels and following its localization. This can help to avoid overexpression artefacts seen with transient transfection. Cells expressing two different fusion proteins can also be fused and the interaction of those proteins monitored over time. We have used this approach to study such things as the snRNP assembly pathway and the targeting of PP1 by regulatory subunits.

1. Co-culture the cells of interest (e.g. trypsinize the two separate dishes, mix the cells and let settle into the same dish) and leave overnight.
2. Pour media off cells and add 50% Hybrimax PEG solution (Sigma) to cover. Leave on for 90 seconds and then rinse off with several media washes. Fusion occurs within 20-30 minutes, and can be observed down the light microscope as large continuous cytoplasms with multiple nuclei.