

Epigenetic Services ChIP Cell Fixation Protocol

1. Fix cells for each cell population to be tested. To fix, add 1/10 volume of freshly prepared Formaldehyde Solution* (see Reagents below) to the existing media in each container of cells (culture flask, plate or tube). Do NOT remove existing media. For example, to a flask containing 10 ml of media, add 1 ml of Formaldehyde Solution. Cap and agitate for exactly 15 minutes at room temperature.
2. Stop the fixation by adding 1/20 volume Glycine Solution* to the existing media in each container. For example, if the flask from Step 1 now contains 11 ml, add 0.55 ml 2.5 M glycine. Let sit at room temperature for 5 minutes. After the glycine incubation, if the cells are adherent, scrape them thoroughly from the culture surface.
3. Wash cells by transferring contents of each container to a conical tube (15 ml or 50 ml tube, depending on the volume). Keep samples on ice for the remainder of the procedure. Centrifuge tubes at 800 x g in a refrigerated centrifuge for 10 minutes to pellet the cells. Remove the supernatant and re-suspend cells in 10 ml chilled PBS-Igepal* per tube by pipetting up and down. If cells from any one population are contained in multiple centrifuge tubes, combine them at this step.
4. Centrifuge tubes again as before to pellet the cells. Remove the supernatant, then add 10 ml chilled PBS-Igepal* to each tube. Add 100 µl PMSF (100 mM in ethanol*; final concentration will be 1 mM) to each tube and pipet up and down to resuspend the cells.
5. Centrifuge tubes a third time to pellet the cells, and carefully remove supernatant completely from cell pellets.
6. Snap-freeze cell pellets on dry ice and store at -80°C.
7. Ship cells on dry ice. Fill out Active Motif's [Sample Submission Form](#), include a hard copy with your samples and ship according to the instructions on the Sample Submission Form.

Reagents*	Final concentration	Per 20 ml
1. Formaldehyde Solution (to be prepared fresh before use):		
37% Formaldehyde (e.g. Sigma #F-8775)	11%	6 ml
5 M NaCl	0.1 M	0.4 ml
0.5 M EDTA, pH 8.0	1 mM	40 µl
1 M HEPES, pH 7.9	50 mM	1 ml
H ₂ O		to 20 ml
(Note: NaCl, EDTA, and HEPES should be molecular biology grade.)		
2. Glycine Solution		
		Per 20 ml
Glycine, MW 75 (e.g. Sigma #G-7403)	2.5 M	3.75 g
H ₂ O		to 20 ml
3. PBS-Igepal		
		Per 100 ml
PBS, pH 7.4 (e.g. ThermoFisher #10010023)	~1X	100 ml
100% Igepal CA-630 (e.g. Sigma #I-8896)	0.5%	0.5 ml
4. PMSF (e.g. Sigma #P-7626)		
Prepare at 100 mM in ethanol and store at -20°C.		
(Note: PMSF Phenylmethanesulfonyl fluoride.)		