Periodate-Lysine-Paraformaldehyde Fixative
(Nakane-McLean Fixative)

1. Prepare solutions A.

0.1M lysine-0.5M NaPO_{4}, pH 7.4

Dissolve 1.827gm lysine HCl in 50 ml. dd H_{2}O (0.2M lysine HCl)

Adjust pH to 7.4 with 0.1M Na_{2}HPO_{4}

Make up to 100ml with 0.1M NaPO_{4} buffer, pH 7.4

Store at 4^\circ C.

2. Prepare Solution B.
(8% formaldehyde)

Mix 8 gm paraformaldehyde in 100ml ddH_{2}O

Heat to 60^\circ C with stirring

Add 3-4 drops 1N NaOH until clear.

Optional: Filter or centrifuge to clarify.

Store at 4^\circ C.

3. Just before use, combine 3 parts A with 1 part B and add NaIO_{4} to 0.01M (i.e. 21.4mg/10ml of fixtaiive).

Final composition is therefore:

0.01M NaIO_{4}
0.075M lysine
0.0375M NaPO_{4} buffer
2% formaldehyde

Note: pH will decrease from 7.4 to 6.2 upon addition of NaIO_{4}….Fixative is used at this lower pH.