**Supplementary Material:**

**Whole homogenate preparation:** The cultured oocytes (n=50) were lysed directly in a 24-well plate with sodium dodecyl sulfate (SDS) sample buffer [50 μl per well; 62.5 mM Tris-HCl (pH 6.8), 1% wt/v SDS, 10% glycerol, and 5% 2-mercaptoethanol] [**Liu *et al.,* Endocrinology 152 (2011) 4418-4430**]. Following sonication with ultrasonic tissue homogenizer for 30 sec, oocyte lysates were transferred to microfuge tubes and heated at 95 ˚C for 10 min.

**Supernatant isolation:** Parallel to extraction in OEB, 50 cultured oocytes were homogenized in cell lysis buffer [**Mahi *et al.,*** **J. Biol. Chem.** **281 (2006) 12093-12101**] containing 20 mM HEPES (pH 7.4), 50 mM β-glycerophosphate, 2 mM EGTA, 1 mM DTT, 10 mM NaF, 1 mM Na3VO4, 1% Triton X-100, 10% glycerol, 2 µM leupeptin, 2 µM aprotinin, and 1 mM phenolmethylsulfonyl fluoride (PMSF). The oocyte lysates were centrifuged and supernatants separated as stated earlier in the ‘Materials and Methods’.

**Nuclear fractions:** Following separation of proteins present in soluble fraction (supernatant) as in step 2, nuclear pellets were extracted using RIPA lysis buffer containing 1% (w/w) Nonidet P-40 (NP-40), 0.5% (w/v) sodium deoxycholate, 0.1% (w/v) SDS, 149 mM NaCl, 0.01 M sodium phosphate, pH 7.2, 2 mM EDTA, 50 mM sodium fluoride (NaF), 0.2 mM fresh sodium orthovanadate (Na3VO4.2H2O), 100 U/ml protease inhibitor cocktail after the centrifugation of homogenized oocytes at 17,500 × *g* for 20 min at 4 °C.

**Table: Comparison of protein concentrations in total homogenate and various sub-cellular fractions from zebrafish oocytes as determined by Lowry *et al.* (1951)**

|  |  |
| --- | --- |
| **Fractions** | **Protein Concentration (µg/ml)\*** |
| Whole homogenate | 26.85 ± 2.01 |
| Supernatant (lysis buffer) | 20.93 ± 2.3 |
| Pellet fraction | 1.86 ± 0.5 |
| Supernatant (OEB) | 19.33 ± 2.86 |

\*Data are mean of five determinations in each fraction

Of the total protein present in whole homogenate, ~ 78% was recovered in the supernatant and < 7% was present in the nuclear fraction suggesting the large proportion of proteins present in whole homogenate was extracted in the supernatant, but not in nuclear pellet fraction. Further, no significant difference was observed in protein extracted in the supernatants using two separate buffer systems, e.g. cell lysis buffer and OEB.