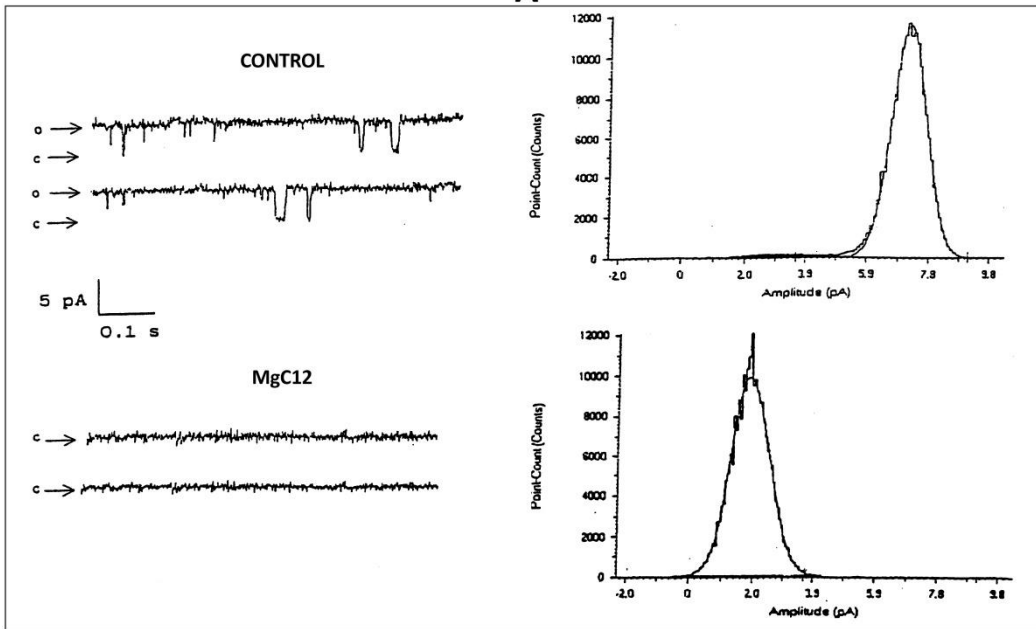


- A -



- B -

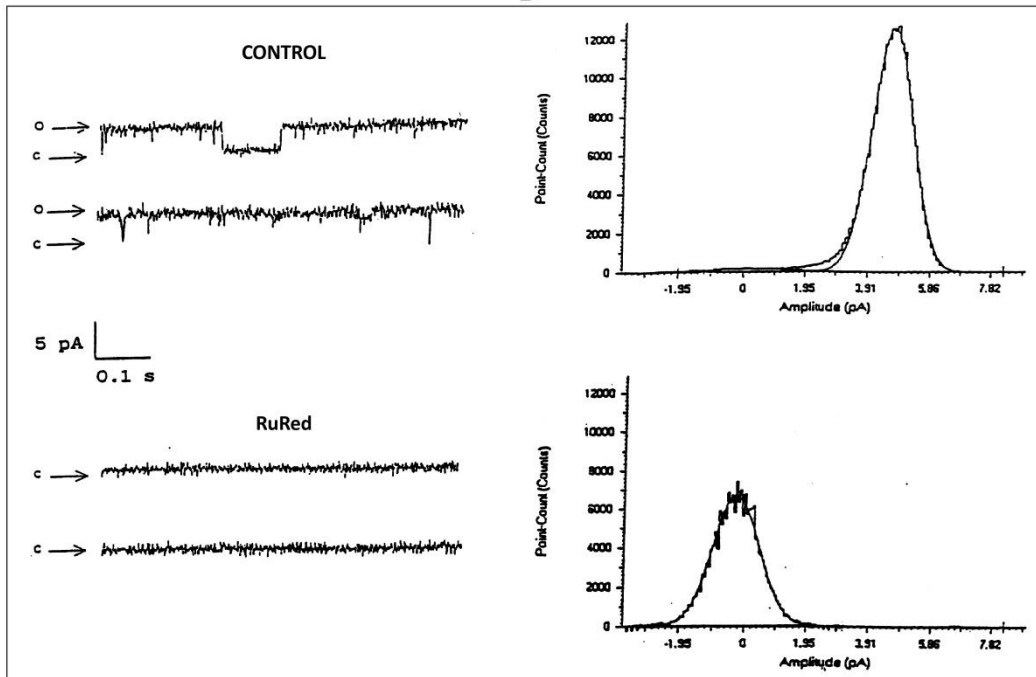
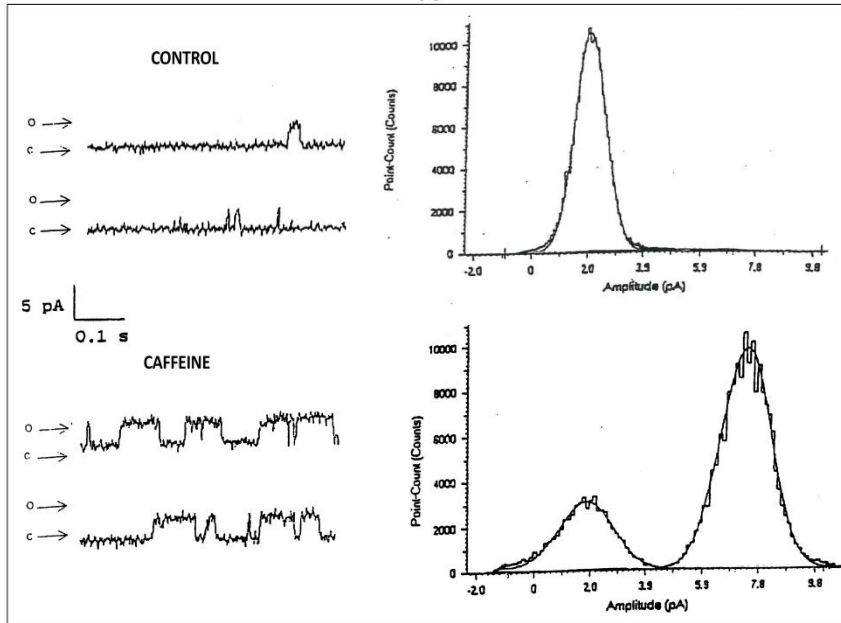


Fig. S1: RyR channels isolated from zygote membrane at 40 min after fertilization. Effects of the MgCl₂ (A) and the polycationic dye Ruthenium Red (B).

- A -



- B -

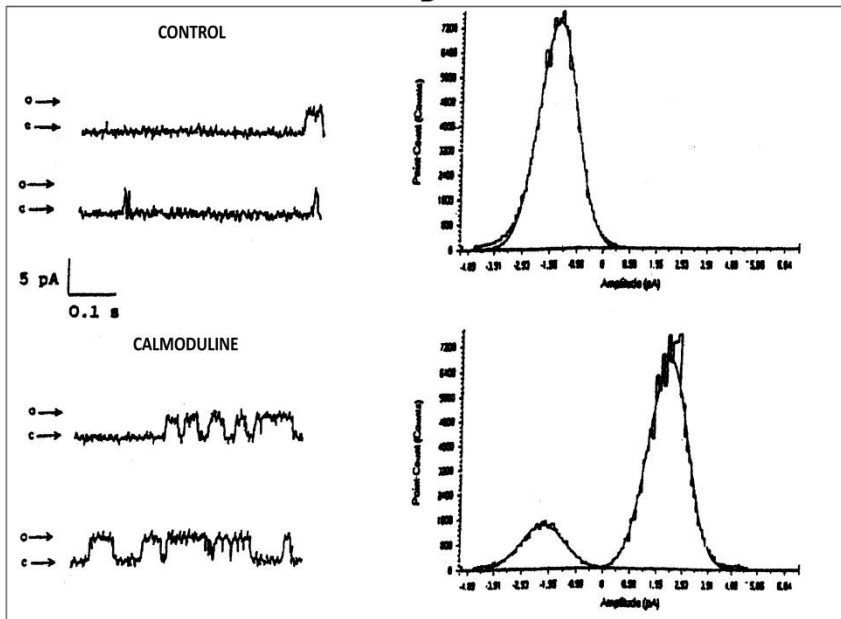


Fig.S2: Current traces in presence of 25 mM Caffeine and 50 nM Calmoduline. Experimental conditions as in Fig. 2

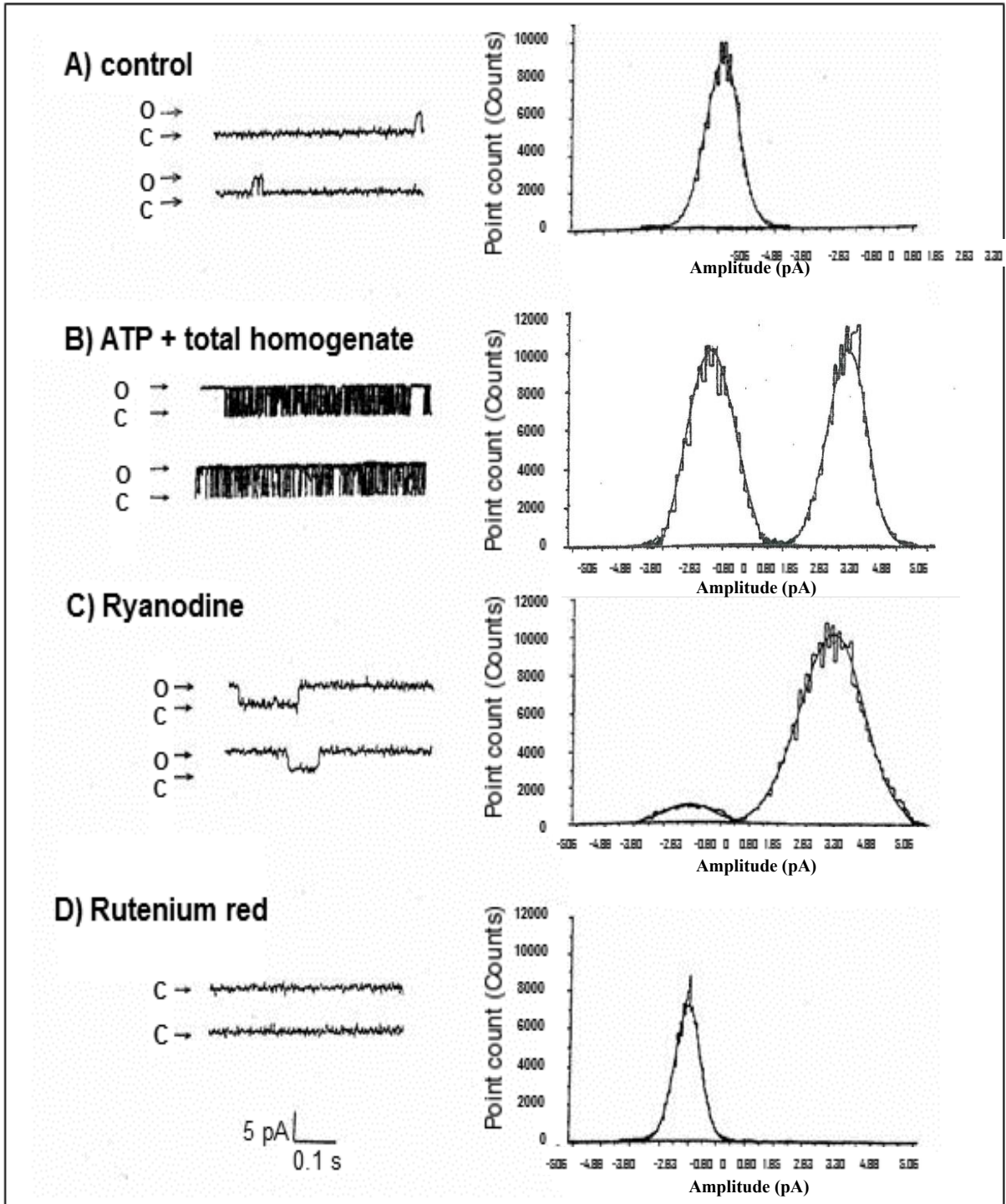
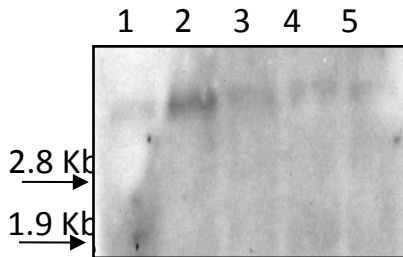


Fig. S3: A) Control condition at +20 mV, B) Channel activity after addition of 5 mM ATP and 5 μ M of 40 min PI zygote total homogenate, C) Subsequent addition of 25 nM Ryanodine and D) Further addition of Ruthenium Red 10 μ M.

Ryanodine receptors individuated by northern blot at different stages of *Paracentrotus lividus* development

Lanes:

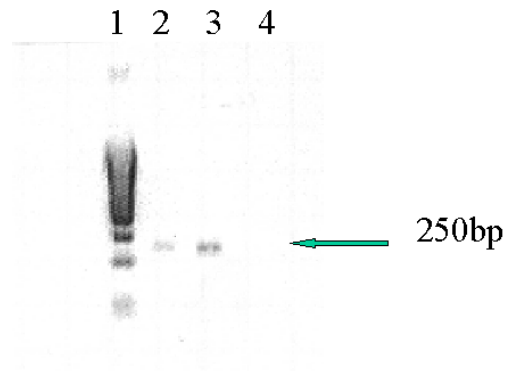
- 1: poly(A)+RNA from unfertilized eggs;
- 2: poly(A)+RNA from fertilized egg-2blastomeres;
- 3 to 5: blastula; gastrula; pluteus



Total RNA was prepared using the guanidine thiocyanate method (Chomczynski and Sacchi, 1987: *Anal. Biochem* 162, 156-159).

Strongest signal in the homogenates of the first two cell cycles; from the 4-blastomere stage the signal decreased, to remain constant

The probe was obtained from a *P. lividus* library: 22 nucleotides, homologous to the c-terminal segment of type 2,3 ryanodine receptor of other organisms (man, mouse, chick, frog, *Drosophila* and *Caenorhabditis*)



RT PCR from RNA

2 blastomeres, 1 e 2 μ l

This result matches with the PCR of genomic DNA