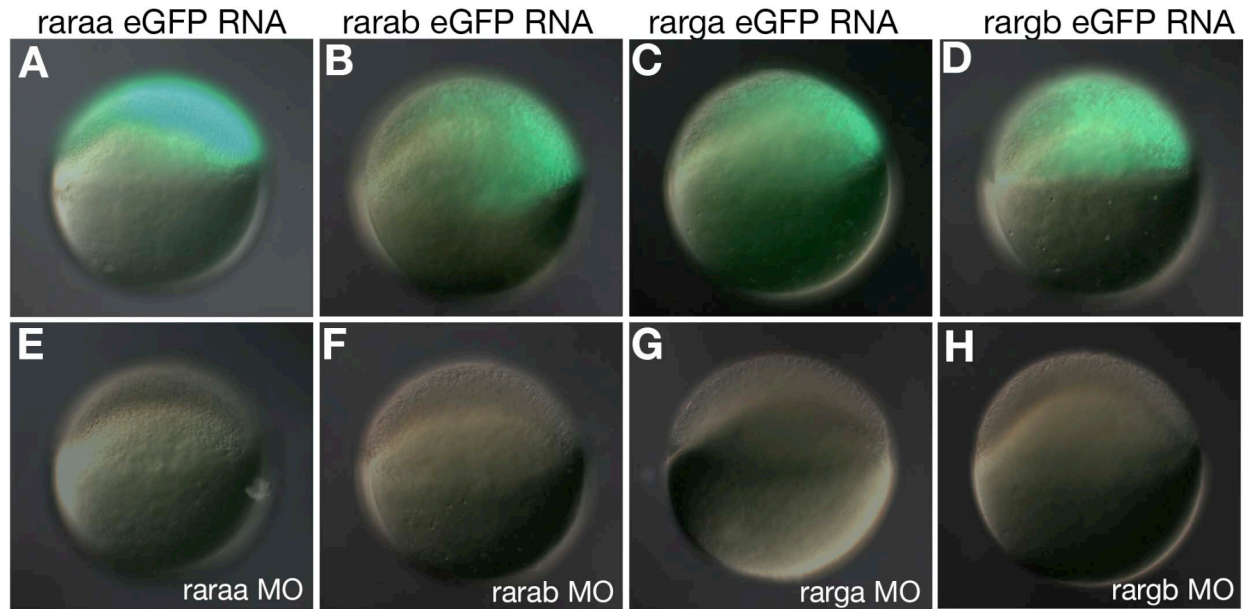


Supplementary Figure 1. Complementary expression of alpha and gamma subclasses of zebrafish *rars*. Whole mount in situ hybridization, anterior to the left. All lateral views except B, E and H, which are dorsal views of flat-mounted preparations. (A-C) *raraa*. At 11 hpf (3s, bud stage) expression is in the posterior neural plate (arrowhead in A), and by 17 hpf in the posterior hindbrain up to the r6/7 boundary (B), which persists until 48 hpf (C). No expression is detected in fins (inset in C). (D-F) *rarab*. At 11 hpf expression is in the posterior neural plate (arrowhead in D), and by 17 hpf in the hindbrain up to the r2/3 boundary (E, arrowhead). By 48 hpf expression spreads throughout much of the brain and pectoral fin buds (F, inset). (G-I) *rarga*. At 11 hpf expression is in cranial mesoderm (G, arrow), and remains restricted to this mesoderm at 17 hpf (H, arrow), with some weak expression in the posterior hindbrain. By 48 hpf expression spreads throughout the brain and pharyngeal arches as well as fin buds (I, inset). (J) *rarab*. Expression is initially ubiquitous (not shown). By 48 hpf it becomes restricted to pharyngeal arches and fins (inset). (K) Diagram of embryos at 8.5 hpf, 12 hpf and 36 hpf, summarizing expression patterns of the *rars*. *raraa* (red), *rarab* (green) and *rarga* (blue). Abbreviations: cm, cranial mesoderm; eb, epiblast; fb, forebrain; hb, hindbrain; hy, hypoblast; nt, neural tube; e, eye; hb, hindbrain; mb, midbrain; np, neural plate; o, otic vesicle; pa, pharyngeal arches; pf, pectoral fin; sc, spinal cord; tb, tailbud.



Supplementary Figure 2. Morpholino controls. Embryos at blastula stages (4 hpf) coinjected with eGFP fused to specific MO-binding sequences for each receptor, and the corresponding MO. (A-D) Controls. (E-H) Morphants. Each MO specifically eliminates expression of the reporter construct, and does not influence expression of the other three reporters (data not shown).