Supplemental figure legends

Supplemental figure 1: *Pgrmc1* and *Pgr* mRNA prevalence in total RNA from adult rat hippocampus by RT-PCR. Copy number was estimated with reference to respective plasmid standard curves containing the same PCR amplicons. In OVX rats, hippocampal *Pgrmc1* mRNA prevalence was 4-fold above *Pgr* (n=3). In intact rats, *Pgrmc1* was > 2-fold above *Pgr* at proestrus and estrus stages; at estrus, *Pgrmc1* mRNA was 50% above OVX rats. **, $p<0.0001$, all estrous cycle stages between *Pgrmc1* and *Pgr*. ^, $p<0.01$ compared to *Pgrmc1* OVX.

Supplemental figure 2: Antibody specificity of rabbit polyclonal Pgr antibody. (A, B) Western blots of whole hippocampal lysates using 25µg total protein showed two bands of ~ 110kD and ~95kD corresponding to PR-B and PR-A respectively (A). Preadsorbing the Pgr antibody with 10-fold excess of blocking peptide depleted both Pgr bands on the western blot (B). (C, D) Immunohistochemistry on rat brain tissue showed specific Pgr signal (C). Preadsorbing the antibody with 10-fold excess of blocking peptide depleted all Pgr IHC signal (D). Scale bars represent 100µm.

Supplemental figure 3: Brightfield images of *in situ* hybridization for *Pgrmc1* (A, B) and *Pgr* (C, D) in hippocampal CA1 pyramidal and dentate gyrus (DG) neuron layers. Note the absence of silver grain clusters over cells hybridized with sense-strand labeled probe (*Pgrmc1*, A; *Pgr*, C). (B) Representative image shows silver grain clusters over CA1 neurons for *Pgrmc1*. (D) In the DG, note the absence of grain clusters for *Pgr* over most DG neurons. Scale bars, 20µm.

Supplemental figure 4: Frequency distribution of average grain density with sense- and anti-sense probes for *Pgrmc1* in CA1 neurons and *Pgr* in DG neurons. Both frequency distributions show non-overlapping grain densities of sense vs. anti-sense probe. The majority of cells labeled

with sense probe (~80%) had 0 grains per cell. A minor population of cells had scattered 1 or 2 grains per cell.

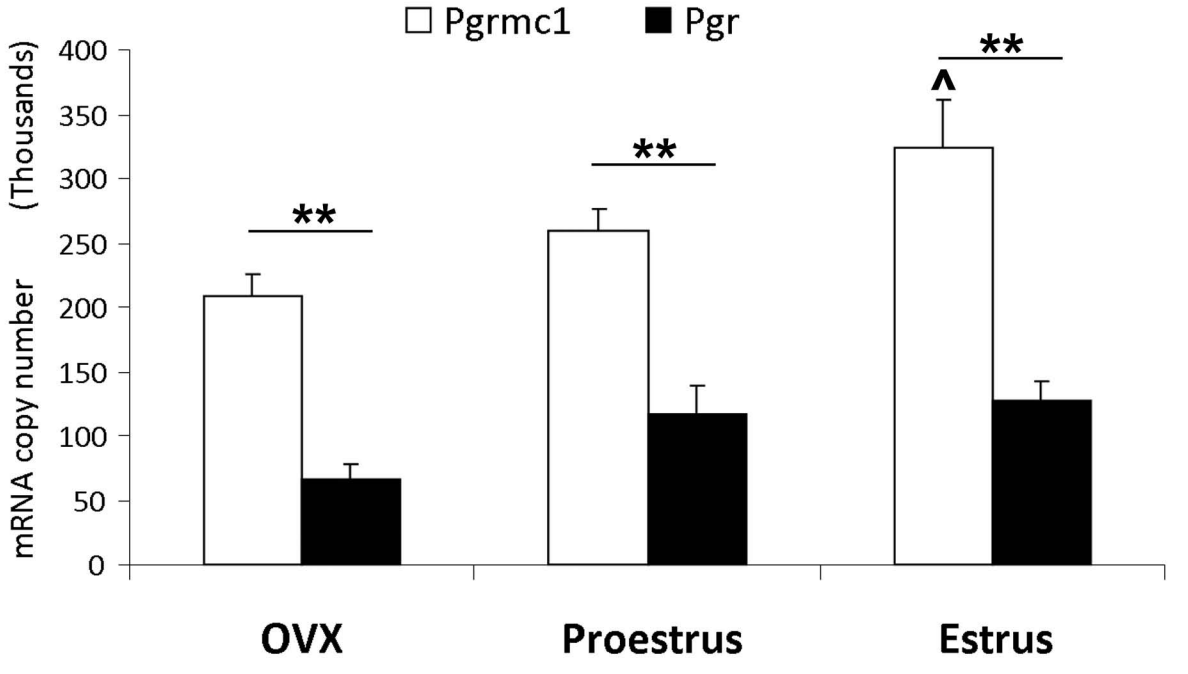
Supplemental figure 5: Frequency distributions of grain densities of *Pgrmc1* mRNA after 4-day hormone replacement in CA1, CA3 and DG neurons.

Supplemental figure 6: Frequency distributions of average grain densities of *Pgrmc1* mRNA after 30-day hormone replacement in CA1, CA3 and DG neurons.

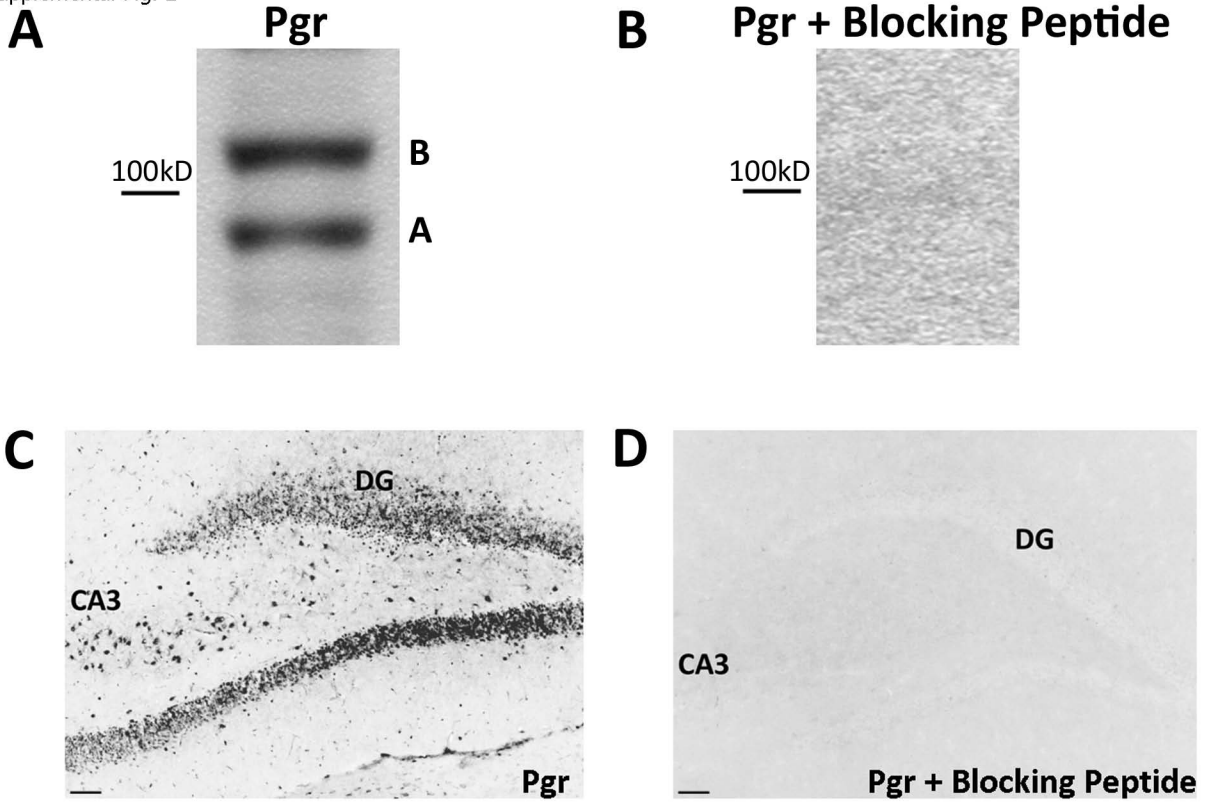
Supplemental figure 7: Frequency distributions of average grain densities of *Pgr* mRNA after 4-day hormone replacement in CA1, CA3 and DG neurons. In CA1 neurons, more cells had higher grain densities vs. OVX. In CA3 neurons, only a subset of cells treated with P4 and E2+P4 had higher grain densities than OVX and E2. No effect of hormones was seen in any grain density class in DG neurons.

Supplemental figure 8: Frequency distributions of average grain densities of *Pgr* mRNA after 30-day hormone replacement in CA1, CA3 and DG neurons. In CA1 neurons, more cells treated with E2 and P4 alone had higher grain densities vs. OVX. Treatment with E2+P4 did not change grain density distribution compared to OVX, in contrast with acute hormone treatment of E2+P4. The 30-day hormone treatment did not change grain density distribution in CA3 and DG neurons.

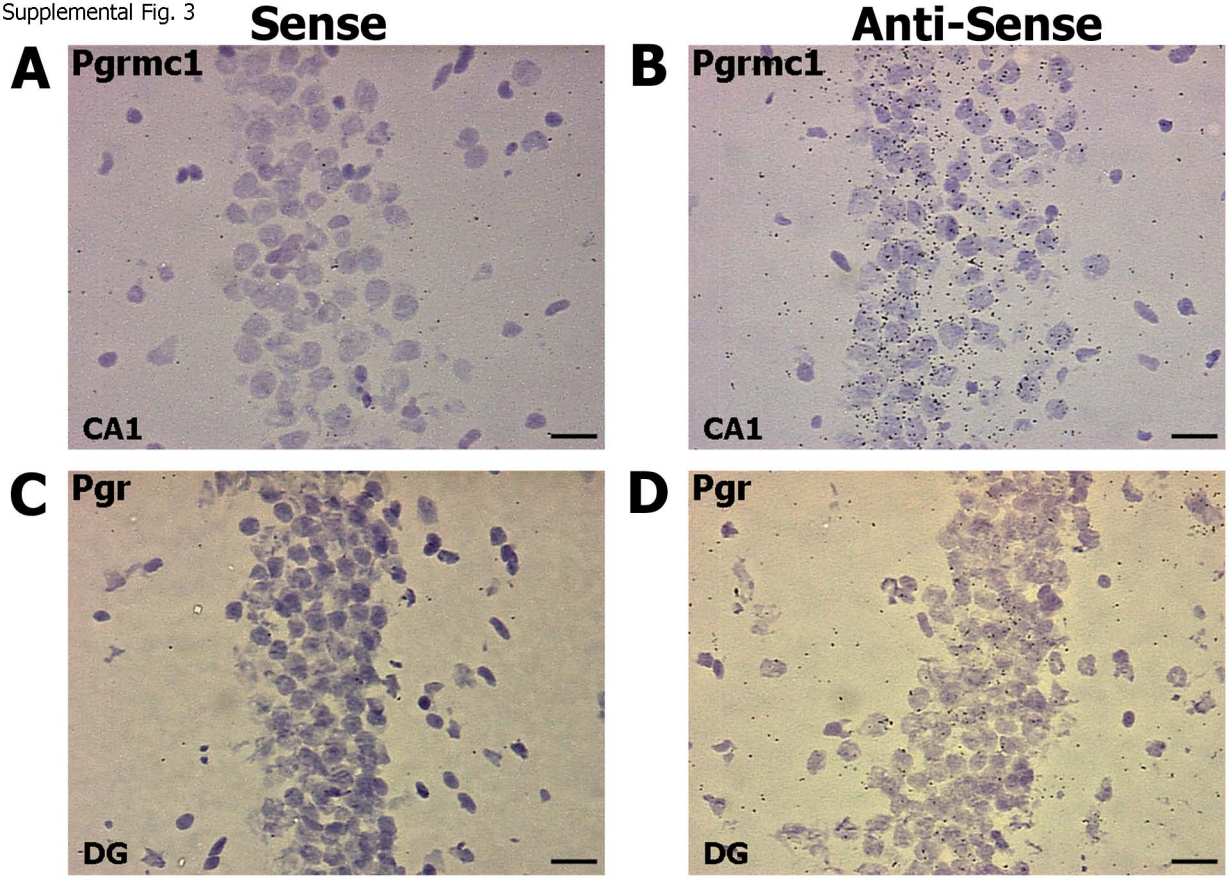
Supplemental Fig. 1



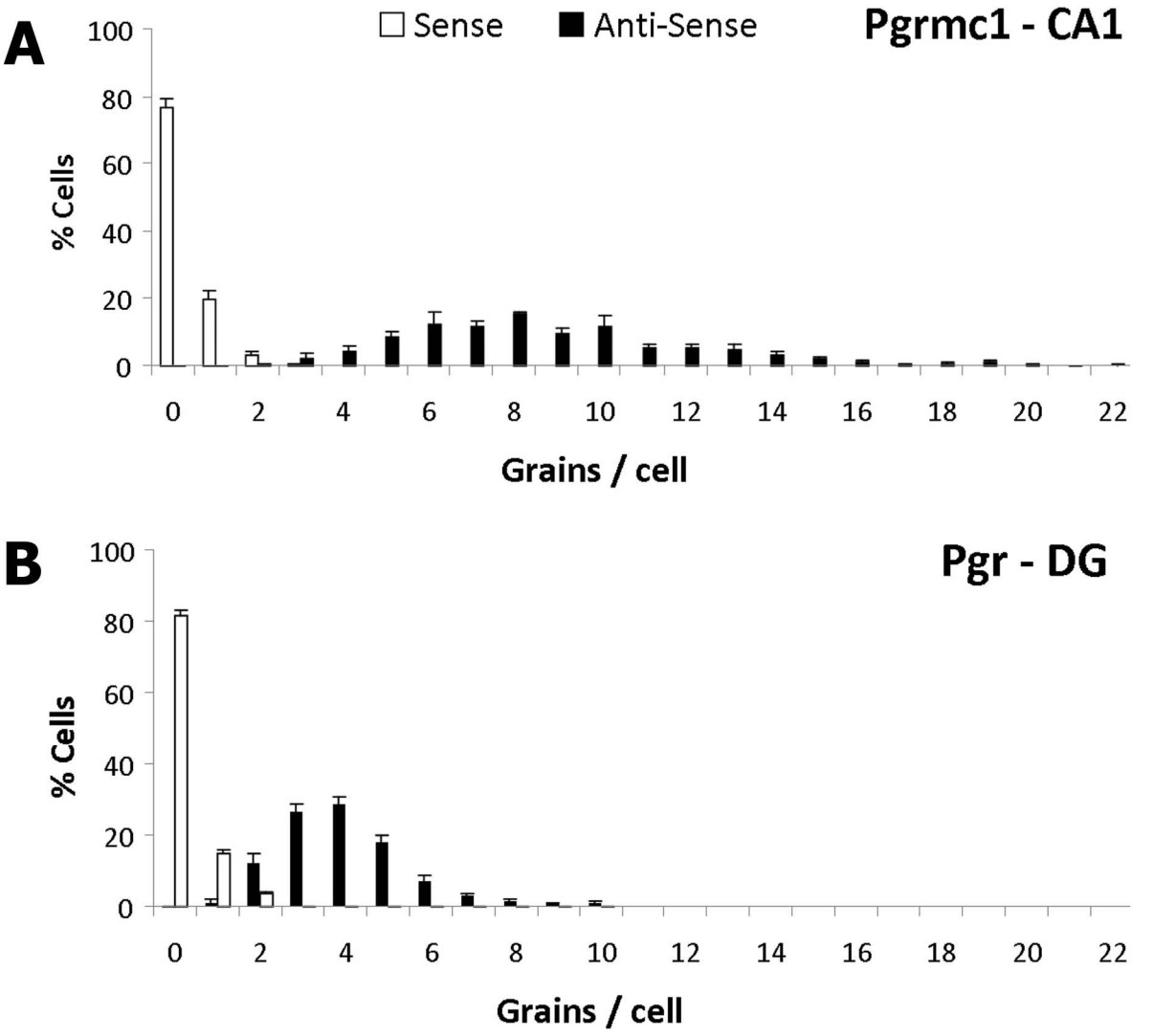
Supplemental Fig. 2



Supplemental Fig. 3

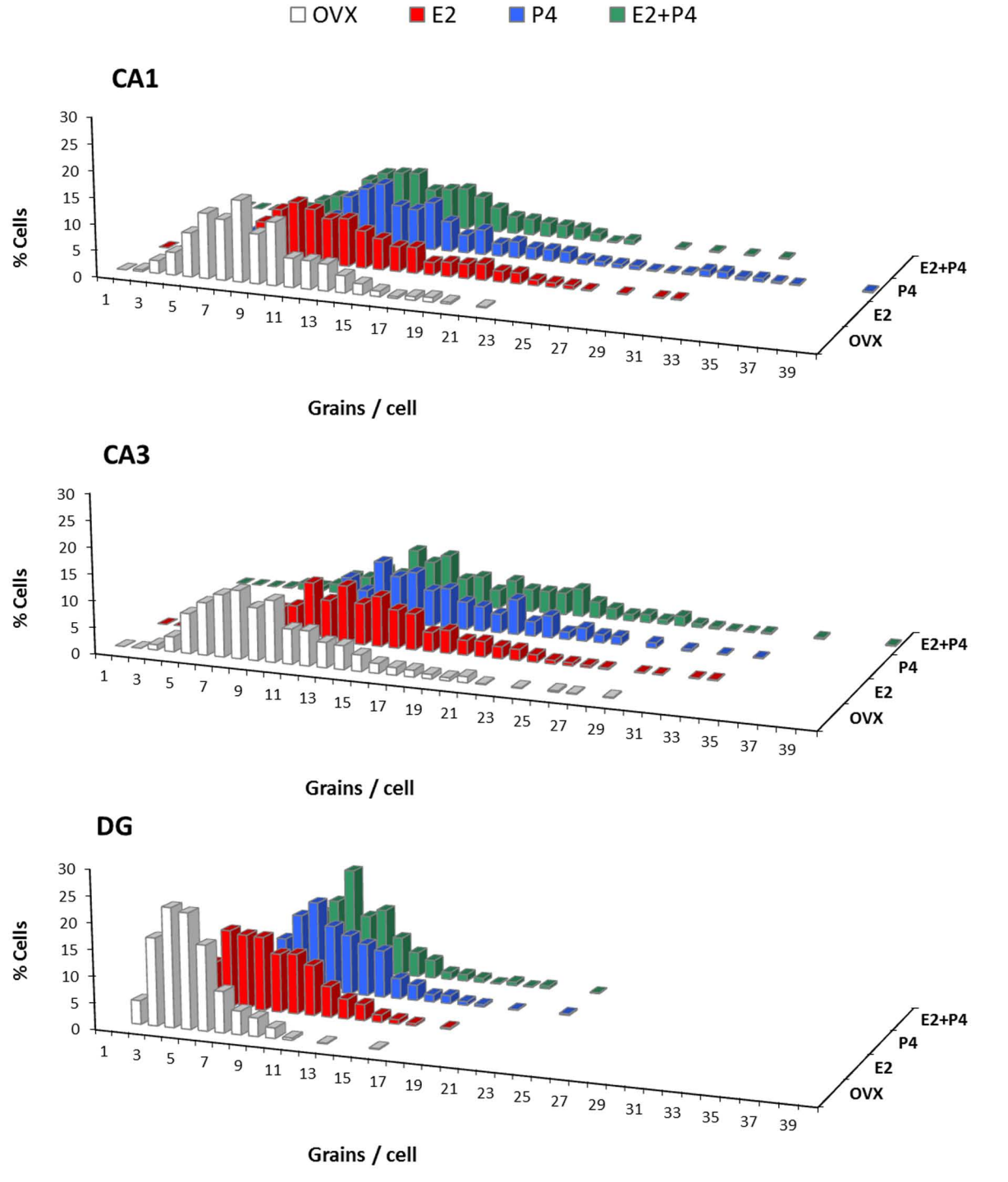


Supplemental Fig. 4



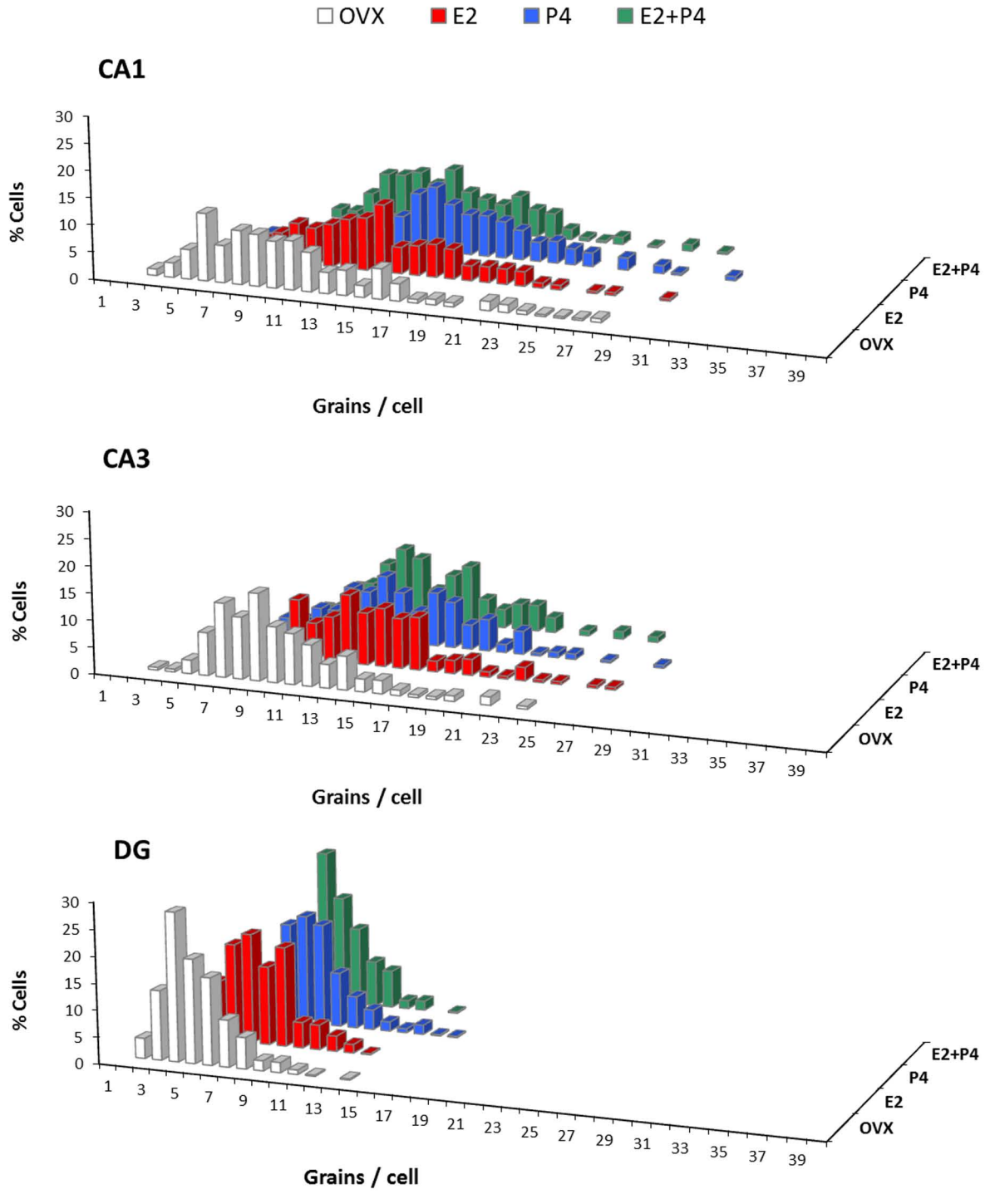
Supplemental Fig. 5

Pgrmc1 - 4-day



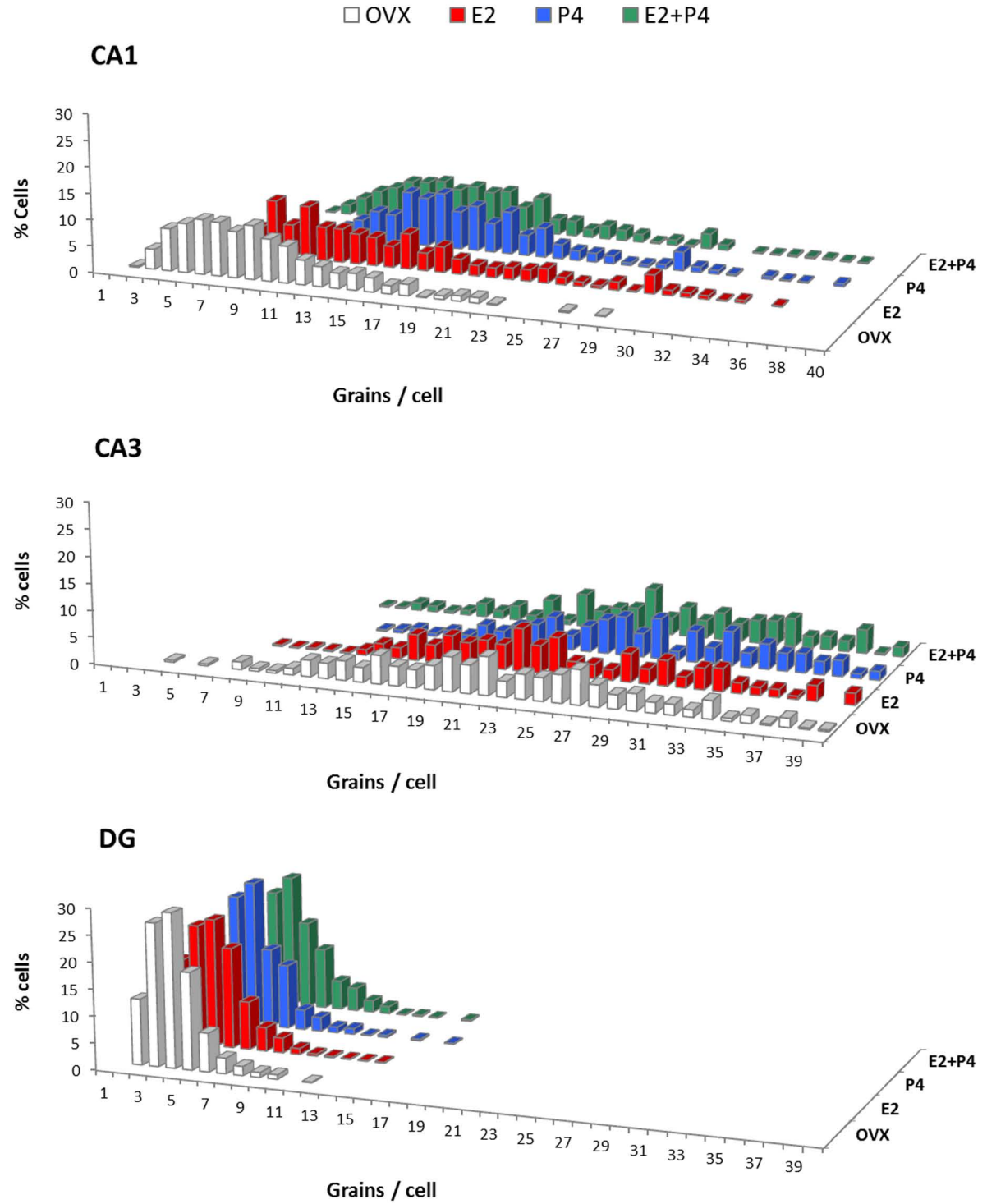
Supplemental Fig. 6

Pgrmc1 - 30-day



Supplemental Fig. 7

Pgr - 4-day



Supplemental Fig. 8

Pgr - 30-day