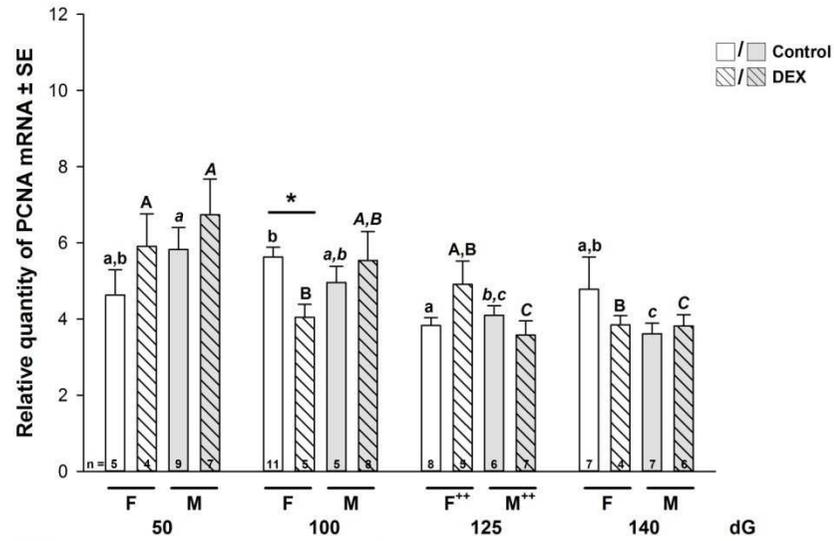
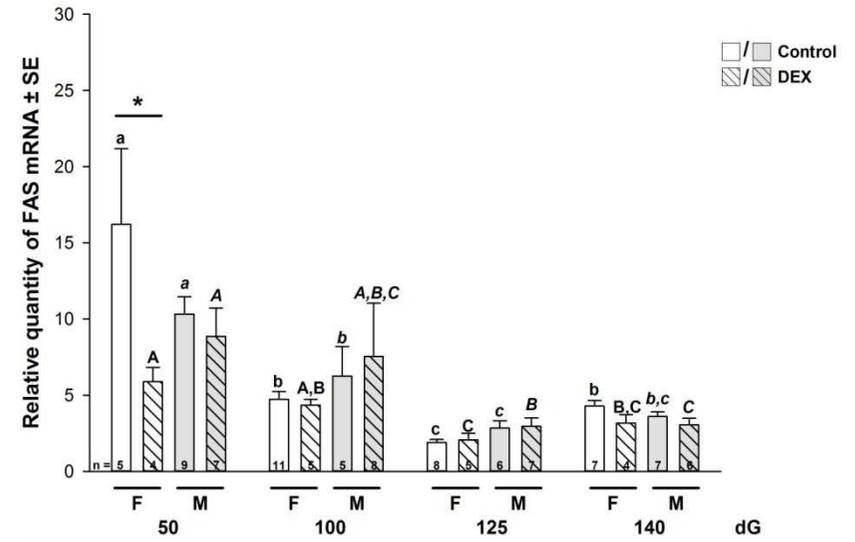


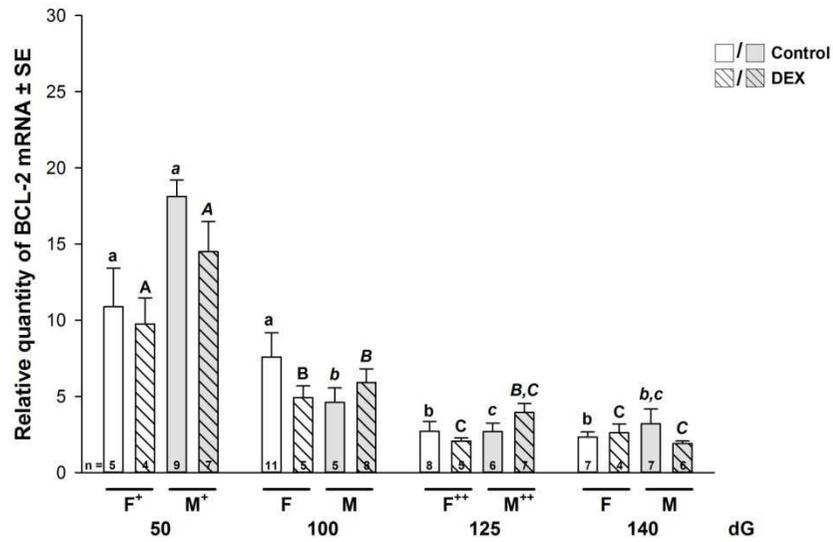
A) The effect of DEX on PCNA mRNA expression



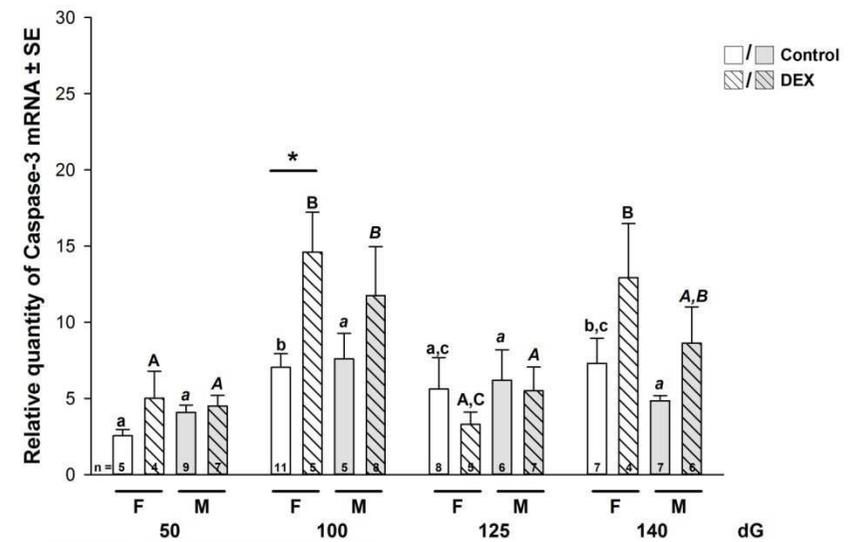
C) The effect of DEX on FAS mRNA expression



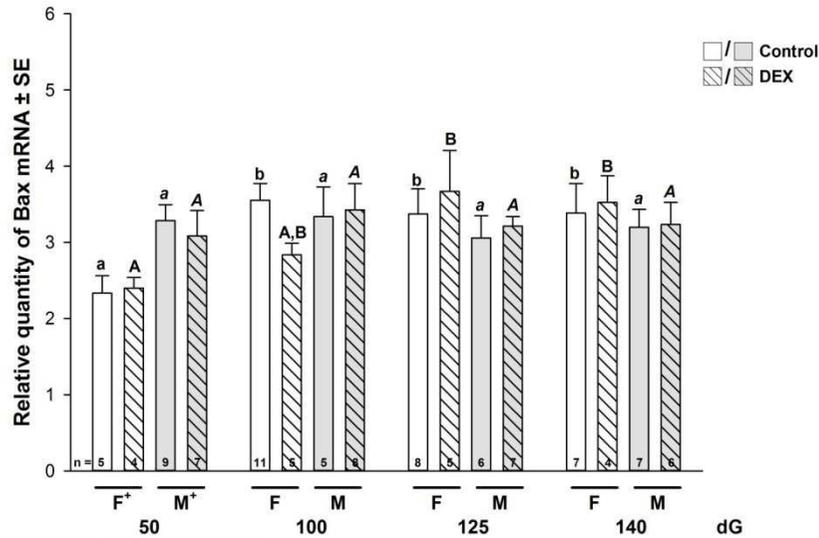
B) The effect of DEX on BCL-2 mRNA expression



D) The effect of DEX on Caspase-3 mRNA expression



E) The effect of DEX on Bax mRNA expression



F) The effect of DEX on p53 mRNA expression

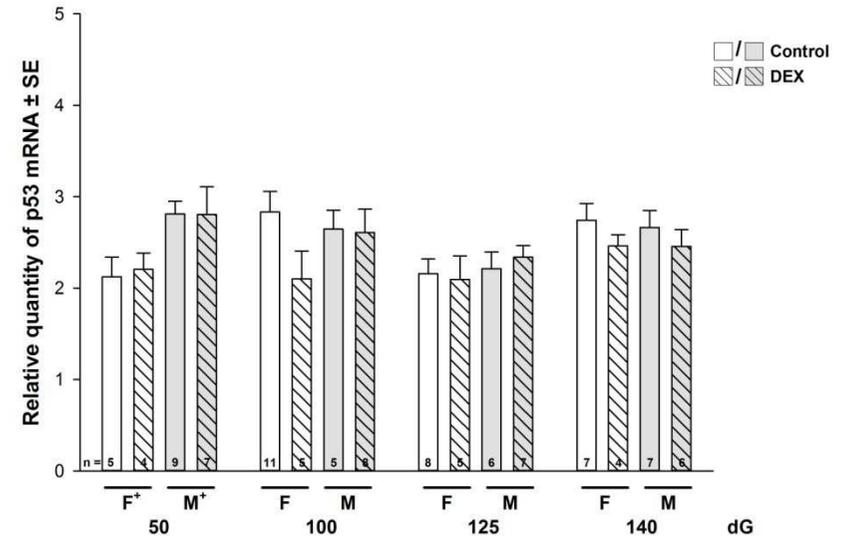


Figure S2 A-F: The effect of early DEX treatment on placental apoptosis markers (combined data of placentome subtypes). Mean mRNA expression levels of placental anti-apoptotic markers A) proliferating cell nuclear antigen, PCNA, B) BCL-2 and pro-apoptotic markers C) FAS, D) activated Caspase-3, E) Bax and F) p53. Data was analyzed by MANOVA with treatment, gender and dG as factors, followed by a pairwise comparison (Holm's Sidak) when main effects were $p < 0.05$. Different small letters indicate significant differences across gestation within controls (females=normal; males=italic), different capital letters indicate significant differences across gestation within DEX (females=normal; males=italic). n=numbers of animals analyzed. *represents significant results ($p < 0.05$) of post hoc analysis (Holm Sidak) control versus DEX, +represents post hoc gender differences female versus male in controls; ++represents post hoc gender differences female versus male in DEX.

| A) Females | No. of BNC | oPL protein | | | plasma oPL | | PCNA | mRNA expression of apoptotic markers | | | | | Fetal weight | Placentome number |
|--|------------|----------------------|----------------------|---------------------------------------|------------|----------|--------|--------------------------------------|--------|----------|-----|--------|--------------|-------------------|
| | | 1 st band | 2 nd band | 1 st /2 nd band | fetal | maternal | | BCL-2 | FAS | Caspase3 | Bax | p53 | | |
| Controls: | | | | | | | | | | | | | | |
| oPL protein: | | | | | | | | | | | | | | |
| 1 st band | -0.486 | -0.486 | | +0.667 | | | | | | | | | | |
| 2 nd band | | | | | +0.578 | | | -0.429 | | +0.425 | | | +0.674 | |
| 1 st /2 nd band | -0.488 | +0.667 | | | +0.423 | | | +0.421 | | | | | -0.474 | |
| oPL plasma: | | | | | | | | | | | | | | |
| fetal | -0.523 | | | +0.423 | | | | | | | | | | |
| maternal | +0.537 | | +0.578 | | | | | -0.422 | | | | | +0.811 | |
| pro- and anti-apoptotic markers: | | | | | | | | | | | | | | |
| PCNA | | | | | | | | | | | | +0.462 | | +0.426 |
| BCL2 | | | -0.429 | +0.421 | | -0.422 | | | | | | | -0.591 | |
| FAS | | | | | | | | | | | | -0.424 | -0.434 | |
| Caspase3 | | | +0.425 | | | | | | | | | +0.532 | | |
| Bax | +0.539 | | | | | | | | -0.424 | +0.532 | | | +0.714 | |
| p53 | | | | | | | +0.462 | | | | | +0.714 | | |
| Fetal weight | +0.719 | | | -0.474 | | +0.811 | | -0.591 | -0.434 | | | | | |
| Placentome number | | | +0.674 | | | | +0.426 | | -0.573 | | | | | |
| Placenta weight | | +0.412 | | | | +0.542 | | | | | | | +0.516 | +0.406 |
| DEX: | | | | | | | | | | | | | | |
| oPL protein | | | | | | | | | | | | | | |
| 1 st band | | | +0.535 | | +0.552 | | | -0.477 | | | | | | +0.491 |
| 2 nd band | | +0.535 | | | | +0.620 | | -0.525 | -0.541 | | | | | |
| 1 st /2 nd band | | | | | | | | | | | | | | |
| oPL Plasma: | | | | | | | | | | | | | | |
| fetal | -0.837 | +0.552 | | | | | | | | | | | -0.712 | |
| maternal | | | +0.620 | | | | | -0.631 | -0.760 | | | | +0.599 | |
| mRNA expression of apoptotic markers: | | | | | | | | | | | | | | |
| PCNA | | | | | | | | | | | | | | |
| BCL2 | | -0.477 | -0.525 | | | -0.631 | | | +0.794 | | | | -0.693 | |
| FAS | | | -0.541 | | | -0.706 | | +0.794 | | | | | -0.589 | |
| Caspase3 | | | | | | | | | | | | | | |
| Bax | +0.632 | | | | | | | | | | | +0.567 | +0.532 | |
| p53 | +0.837 | | | | -0.712 | | | | | | | +0.567 | | |
| Fetal weight | +0.860 | | | | | +0.599 | | -0.693 | -0.589 | | | +0.532 | | |
| Placentome number | | +0.491 | | | | +0.469 | | | | | | | | |
| Placenta weight | | +0.599 | +0.444 | | | | -0.588 | -0.750 | -0.604 | | | | +0.745 | |

| B) Males | No. of BNC | oPL protein | | | plasma oPL | | PCNA | mRNA expression of apoptotic markers | | | | | Fetal weight | Placentome number |
|--|------------|----------------------|----------------------|---------------------------------------|------------|----------|--------|--------------------------------------|--------|----------|--------|--------|--------------|-------------------|
| | | 1 st band | 2 nd band | 1 st /2 nd band | fetal | maternal | | BCL-2 | FAS | Caspase3 | Bax | p53 | | |
| Controls: | | | | | | | | | | | | | | |
| oPL protein: | | | | | | | | | | | | | | |
| 1 st band | | | | +0.782 | +0.503 | | -0.532 | -0.703 | -0.518 | | | | +0.441 | |
| 2 nd band | +0.664 | +0.498 | | | | +0.616 | | -0.780 | -0.645 | | | +0.801 | +0.497 | |
| 1 st /2 nd band | | +0.782 | +0.498 | | +0.438 | | | | | | | | | |
| oPL plasma: | | | | | | | | | | | | | | |
| fetal | | +0.503 | | +0.438 | | | | -0.406 | | | | | | |
| maternal | +0.647 | | +0.616 | | | | -0.956 | -0.580 | -0.556 | | | +0.895 | | |
| pro- and anti-apoptotic markers: | | | | | | | | | | | | | | |
| PCNA | | | -0.532 | | -0.596 | | | +0.433 | +0.614 | | +0.395 | -0.609 | | |
| BCL2 | | -0.703 | -0.780 | | -0.406 | -0.580 | +0.433 | +0.728 | | | +0.423 | -0.736 | -0.601 | |
| FAS | | -0.518 | -0.645 | | -0.556 | +0.614 | +0.614 | +0.728 | | | +0.400 | +0.556 | -0.665 | |
| Caspase3 | | | | | | | | | | | | | | |
| Bax | | | | | | | +0.395 | | +0.400 | | | +0.546 | | |
| p53 | | | | | | | | +0.423 | +0.556 | | +0.546 | | | |
| Fetal weight | +0.731 | | +0.801 | | | +0.895 | -0.609 | -0.736 | -0.665 | | | | +0.415 | |
| Placentome number | | +0.441 | +0.497 | | | | | -0.601 | | | | +0.415 | +0.616 | |
| Placenta weight | | +0.642 | +0.649 | | +0.468 | +0.678 | -0.460 | | -0.680 | | | +0.773 | | |
| DEX: | | | | | | | | | | | | | | |
| oPL protein | | | | | | | | | | | | | | |
| 1 st band | | | +0.636 | +0.587 | +0.481 | | | -0.608 | | | | | +0.564 | |
| 2 nd band | +0.664 | +0.636 | | | +0.714 | -0.389 | | -0.669 | | | | +0.685 | +0.482 | |
| 1 st /2 nd band | | +0.587 | | | | | | | | | | | | |
| oPL Plasma: | | | | | | | | | | | | | | |
| fetal | | | | | | | | | | | | | | |
| maternal | +0.827 | +0.481 | +0.714 | | | | -0.518 | -0.737 | -0.433 | | | +0.815 | | |
| mRNA expression of apoptotic markers: | | | | | | | | | | | | | | |
| PCNA | | | -0.389 | | -0.518 | | | +0.696 | +0.719 | | +0.425 | +0.668 | -0.552 | -0.402 |
| BCL2 | -0.594 | -0.608 | -0.669 | | -0.737 | +0.696 | | +0.607 | +0.607 | | | +0.490 | -0.719 | |
| FAS | | | | | -0.433 | +0.719 | | +0.607 | | | +0.609 | +0.612 | -0.387 | |
| Caspase3 | | | | | | | | | | | | | | |
| Bax | | | | | | | +0.425 | | +0.609 | | | +0.774 | | |
| p53 | | | | | | | +0.668 | +0.490 | +0.612 | | +0.774 | | | |
| Fetal weight | +0.793 | | +0.685 | | +0.815 | -0.552 | | -0.719 | -0.387 | | | | | |
| Placentome number | | +0.564 | +0.482 | | +0.612 | -0.402 | | | | | | | | |
| Placenta weight | +0.589 | +0.617 | +0.622 | | | -0.537 | | -0.768 | | | | +0.807 | +0.584 | |

Table S1 A-B: The relationship (expressed as Pearson correlation coefficient) between binucleate cell (BNC) number, ovine placental lactogen (oPL) protein level, plasma oPL levels with apoptotic markers and fetal and placental weight and placentome numbers in A) females and B) males. Pearson correlation between control- and DEX-treated animals. 2-sided significance level set as $p < 0.05$. Data are presented as combined data of placentome subtypes across gestation. Differences after DEX compared with controls are indicated with colour.