S2 Table. Genes overlapping between AMH and domesticated species

<table>
<thead>
<tr>
<th>GENE NAME</th>
<th>OVERLAPPING SPECIES</th>
<th>ENSEMBL ID</th>
<th>GENE FUNCTION [Pathway]</th>
<th>PATHWAY ANNOTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMBRA1</td>
<td>horse</td>
<td>ENSG00000110497</td>
<td>Regulates angiogenesis and development of the female reproductive system; plays a role in controlling protein synthesis during cellular development; and regulates cellular survival and proliferation (by similarity)</td>
<td>Cell responses to stress (Reactome)</td>
</tr>
<tr>
<td>BRAF</td>
<td>cat, horse</td>
<td>ENSG00000174364</td>
<td>Protein kinase involved in the transduction of mitogenic signals from the cell membrane to the nucleus. May play a role in the posttranslational response of hypoxia-inducible factors. Phosphorylates MAPK1 and 3, and thereby contributes to the MAPK signal transduction pathway.</td>
<td>EGF-R, bFGF, IGF, insulin, HRG signaling pathways, PI3K-Akt signaling pathway, MAPK signaling pathway, Wnt signaling pathway, TGF-beta signaling pathway, Vascular smooth muscle contraction, G protein-coupled receptors, Tyrosine kinase receptors, Protein kinase C, Peroxisome proliferator-activated receptors, Cell cycle, Cytoskeleton, Cell-cell communication, Cell differentiation, Cell adhesion molecules, Adhesion receptors, Cell cycle checkpoint control, Cell cycle regulation, Cell proliferation, Cell survival, Cell-type-specific cellular responses.</td>
</tr>
</tbody>
</table>
**RNPC3**
cat, dog
ENSG00000198795
Participates in pre-miRNA U12-dependent splicing, performed by the minor spliceosome which removes U12-type introns. U12-type introns comprise less than 1% of all introns. RNPC3 plays a role in the splicing of U12-type introns through interaction with Sm-mediated core snRNPs.

**SF3B1**
cat
ENSG00000116244
Spliceosome (KEGG)

**SKA2**
cat
ENSG00000192828
Cell Cycle, Signal Transduction (Reactome)

**SNRPD1**
cat
ENSG00000167588
Gene Expression (Reactome)

**STAR1**
horse
ENSG00000113027
Smad signaling pathway (KEGG)

**SYTL1**
cat
ENSG00000142765
Vesicle-mediated transport (Reactome)

**TAZ1R1**
cat
ENSG00000178519
Vesicle-mediated transport (Reactome)

**TEX14**
cat
ENSG00000121101
NA

**TGFBR1**
cat
ENSG00000167269
N/A

**ZMYSN1**
cat
ENSG00000168038
NA

**ZNF521**
cat
ENSG00000187976
NA

**SNRPF and SNRPG that assemble in a heptameric protein ring on the Sm site of the small nuclear RNA to form the core snRNP. May act as a charged protein scaffold to promote snRNP assembly or strengthen snRNP-snRNP interactions through nonspecific electrostatic contacts with RNA.**

**Subunit of the splicing factor SF3B required for 'A' complex assembly formed by the stable binding of U2 snRNP to the trans-acting sequence (BPS) in pre-mRNA. Sequential binding of SF3B to all complex components of the branch site is essential, it may anchor U2 snRNP to the pre-mRNA. May also be involved in the assembly of the 5' complex. Also acts as a minor U12-dependent spliceosome, which is involved in the splicing of rare class of nuclear pre-mRNA.**

**Component of the SMN1 complex, a macromolecular multiprotein subcomplex of the outer heterochromatin that is essential for proper chromatin segregation. Required for timely nuclear envelope sealing during cytokinesis, when chromosomes undergo bipolar attachment to mitotic spindle microtubules leading to efficient cytokinesis at the margin of the spindle.**

**Transcription factor that can both act as an activator or a repressor depending on the context. Involved in BMP signaling and in the regulation of the immature compartment of the hematopoietic system. Associates with SMADs in response to BMPs leading to induction of BMP target genes. Acts as a transcriptional activator, repressor and coactivator.**

**Required for motile ciliary function. Probably involved in axonemal assembly of inner and outer dynein arms and for their appropriate orientation and function in the mature cilium.**

**Required both for the formation of intercellular bridges during meiosis and for kinetochore-microtubule attachment during mitosis. Intercellular bridges are evolutionarily conserved structures that connect differentiating germ cells and are required for spermatogenesis and male fertility.**

**Signals through PLCB2 and the calcium-regulated cation channel TRPM5.**

**Affinity for microtubules is synergistically enhanced in the presence of the ndc-80 complex and may allow the formation of microtubule bridges between midbodies.**

**Participates in pre-mRNA U12-dependent splicing, performed by the minor spliceosome which removes U12-type introns. U12-type introns comprise less than 1% of all introns.**