

**Table S1.** Principal component analysis (PCA) and orthogonal partial least squares discriminant analysis (OPLS-DA) of goat semen.

Type	R <sup>2</sup> X(cum) <sup>1)</sup>	R <sup>2</sup> Y(cum) <sup>2)</sup>	Q <sup>2</sup> (cum) <sup>3)</sup>
PCA	0.564		
OPLS-DA	0.455	0.958	0.581

<sup>1), 2)</sup>R<sup>2</sup>X(cum) and R<sup>2</sup>Y(cum): the cumulative explanatory power of variables.

<sup>3)</sup>Q<sup>2</sup>(cum): the predictability of the model.