

Cloning and Expression of the PH-20 protein in Bovine (*Bos taurus*) Testicular

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Abstract

PH-20 hyaluronidase is a glycoprotein with a molecular mass of 65 kDa which is bound to the head of spermatozoa via a GPI-anchor. Its hyaluronidase activity results in the hydrolysis of the hyaluronic acid-rich cumulus matrix during sperm penetration of extracellular oocyte. The bovine testis PH-20 gene was cloned successfully by one step RT-PCR. The nucleotide and amino acid sequences showed high identity to pig Spam1. Only the core of 1422 nucleotide has been cloned, sequenced and expressed.

Since the hyaluronidase activity of sperm surface PH-20 is dependent on glycosylation, PH-20 protein was expressed in *Pichia pastoris* to reach its biological function.

PH-20 was secreted in the medium and showed typical hyaluronidase activity. Optimization of the enzyme production is under way.

References

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