

STUDY OF PROTEINS FROM CANINE SEMINAL PLASMA

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Seminal fluid is the liquid component of sperm, providing a safe surrounding for spermatozoa. The constituents of seminal plasma are important for the reproductive process. Seminal plasma has the common feature to many other body fluids that it is characterized by a high dynamic range of proteins. The study of the constituents of canine seminal plasma, especially of proteins, appears as a way to understand the mechanism of fertility as well as of biomarker discovery. Fresh semen was collected from 6 dogs. All samples were immediately cooled to +5⁰C; solid ammonium sulfate (5; 10; 20; 36% saturation) was added to the seminal plasma and the spermatozoa-free supernatant was dialyzed and lyophilized. The proteins were analyzed by SDS (2D) and SDS-PAGE gradient. The samples were chromatographed in a C₁₈ (HPLC system) and analyzed by mass spectrometry. The presence of a Serine proteinase in the canine seminal plasma was established by an enzymatic assay based on the its amidasic activity (using BApNA as substrate). By mass spectrometry MS/ES a molecular mass protein of 25 KDa was observed. The molecular mass of the proteins were also assessed using a SDS-PAGE (2D). These results showed the presence of a serine proteinase in canine seminal plasma, among other proteins.