

## Protein and MDA (Malondialdehyde) Profil of Bull Sperm and Seminal Plasma After Freezing

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**Abstract :** Semen is an organic fluid (seminal plasma) that contain spermatozoa. Proteins are one of the major seminal plasma components that modulate sperm functionality, influence sperm capacitation and maintaining the stability of the membrane. Semen freezing is a procedure to preserve sperm cells. The process causes decrease in sperm viability due to temperature shock and oxidation stress. Oxidation stress is a disturbance on phosphorylation that increases ROS concentration, and it produces lipid peroxide in spermatozoa membrane resulted in high MDA (malondialdehyde) concentration. The objective of this study was to examine the effect of freezing on protein and MDA profile of bovine sperm cell and seminal plasma after freezing. Protein and MDA of sperm cell and seminal plasma were isolated from 10 sample. Protein profiles was analyzed by SDS PAGE with separating gel 12,5 %. The concentration of MDA was measured by spectrophotometer. The results of the research indicated that freezing of semen cause lost of the seminal plasma proteins with molecular with 20, 10, and 9 kDa. In addition, the result research showed that protein of the sperm (26, 10, 9, 7, and 6 kDa) had been lost. There were difference MDA concentration of seminal plasma and sperm cell were increase after freezing. MDA concentration of seminal plasma before and after freezing were 2.2 and 2.4 nmol, respectively. MDA concentration of sperm cell before and after freezing were 1,5 and 1.8 nmol, respectively. In conclusion, there were differences protein profiles of spermatozoa before and after semen freezing and freezing cause increasing of the MDA concentration.

**Keywords :** MDA, semen freezing, SDS PAGE, protein profile

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