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Electrophoretic and Chromatographic Properties of Boar Sperm Plasma Membranes: Antigens and Polypeptides with Affinity for Isolated Zonae Pellucidae

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Two methods were used to assess the ability of plasma membrane (PM) polypeptides to bind to isolated zonae pellucidae (ZP). Crossed immunoelectrophoresis patterns of detergent solubilized PM were compared in the presence and absence of ZP. Two antigens which represented less than 20% of the total antigen response were significantly changed in electrophoretic mobility and precipitin peak height. In the second experiment, detergent solubilized PMs, labeled with iodine-125 (¹²⁵I), were absorbed to a column containing purified ZP. Washed columns eluted with SDS-urea were found to be enriched in several polypeptides which migrate in PAGE-SDS gels below 22 Kd. Comparison of PAGE patterns of PM originating primarily from the sperm head with those enriched in PM from other regions of the sperm surface suggest that these low molecular weight polypeptides with affinity for isolated ZP are concentrated in the sperm head. These experiments provide a base for determining which PM components are involved in spermegg interactions *in vivo*.

Key words: sperm, plasma membrane, zonae pellucidae

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