

CONTROL OF GLUCOSE METABOLISM IN ZEBUINE COW'S OVIDUCT

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Oviduct provides the appropriate environment for oocytes transport and final maturation, spermatozoa transport and capacitation, fertilization and early embryo development. Glucose has an important function on the fisiology and development of many organisms. The present study aims to understand the role of glycolytic enzymes and the gluconeogenic enzyme Phosphoenolpyruvate Carboxi Kinase (PEPCK) in oviduct cells from zebuine cows with or without *corpus luteum* and their ability to regulate glucose metabolism. For this, we evaluated glucose concentration as well as pyruvate, phosphoenolpyruvate and glycogen content in oviduct cells. The hexokinase, pyruvate kinase and phosphoenolpyruvate kinase activities were also measured on these cells. The glycolytic activity was different on cells from cows with and without corpus luteum. We observed an intense gluconeogenic activity on oviduct cells of cows with corpus luteum based on high PEPCK activity. Such glycolytic activity profile in oviduct cells suggests that oviduct accumulates glycogen and phosphoenolpyruvate. Thus, energetically nourishing the initial embryo development with phosphoenolpyruvate and glycogen. Which correlates with oviduct function.

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