Functionally active extracellular vesicles are released and taken up by zona-intact bovine embryos produced in vitro

Pavani, K.C.¹; Hendrix, A.²; Leemans, B.¹; Van Soom, A.¹
¹Department of Reproduction, Obstetrics and Herd Health, Faculty of Veterinary Medicine, ²Department of Radiation Oncology and Experimental Cancer Research, Ghent University, Ghent, Belgium.

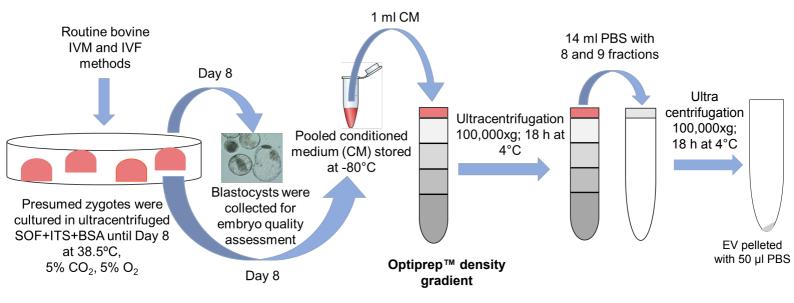
Study question

Are extracellular vesicles (EVs), as putative autocrine factors, released into the culture medium by bovine embryos and are they able to cross the zona pellucida?

Summary answer

Extracellular vesicles were isolated from EVfree media conditioned by bovine embryos. After fluorescent labeling of EVs, they were taken up and internalized by zona-intact bovine embryos.

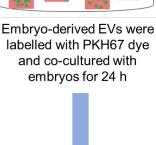
Experimental Design



EV identification

Embryo-derived EVs Solicular fluid EVs CD63 CD9

EV labeling



Electron Microscopy

Western Blot

Embryo derived-EV: uptake by embryo





200 nm

