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Title:	Determining the presence of exosomes in the Drosophila lymph gland
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Abstract:	<p>Exosomes are membrane-derived extracellular vesicles that act as inter-cellular messengers. They carry cargo derived from parental cells, such as DNA and proteins, and are involved in many biological processes required for normal development. Exosomes have also been shown to play both negative and positive roles in diseased systems, such as leukaemia and neurodegeneration. Currently, studies are being conducted in vertebrates to utilize exosomes as biomarkers and therapeutic targets for such diseases. Drosophila has been used for a long time as a model to investigate mechanisms involved in vertebrate haematopoiesis. The lymph gland is the main haematopoietic organ in Drosophila melanogaster. It is active during the larval stages and gives rise to two types of haemocytes in a healthy system - plasmotocytes and crystal cells. The progenitors in the lymph gland can also differentiate into lamellocytes during wasp parasitization. Haematopoiesis in Drosophila is controlled by conserved signalling factors and pathways closely resembling vertebrate haematopoiesis. Although exosomes have been implicated in a few biological processes in fruit flies, no studies have checked their existence or role in the lymph gland. In this project, we show that the whole lymph gland produces exosomes throughout the third instar larval stage. This result can be used as a foundation to determine the role exosomes play in the lymph gland during normal development and leukaemic conditions.</p>
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