Extracellular vesicles and miRNA export

What they are, formation mechanisms (mention lipid raft involvement. Introduce miRNA)

Why are they important (transfer functional miRNA, proteins. Metastasis, other disease?)

What is still unknown ie. What you want to find out

Experimental system:

PC3 cells.

Cavin and caveolin

Significance: fundamental cell biology (current thought is that exosomal miRNA simply represent a snapshot of cellular miRNA), cancer and other disease with lipid raft/cholesterol de-regulation.

Extracellular vesicles are cell-derived lipid bound vesicles that house proteins and RNAs, including messenger and microRNAs, originating from the host cell. These form by exocytosis of multivesicular bodies or budding from the plasma membrane, mediated by regions in the membrane enriched in certain lipids, known as lipid rafts. These vesicles perform cell-cell communication vital to cellular biology by regulating pathways in recipient cells.

TGGTGTCGTGGAGTCG

Extracellular vesicles are cell-derived lipid bound vesicles that house proteins and RNAs, including messenger and microRNAs, originating from the host cell. These vesicles perform cell-cell communication vital to cellular biology by regulating pathways in recipient cells. Cargo sorting is mediated by changes in lipid raft composition, which has been somewhat documented in terms of protein sorting. However, microRNA sorting has not been elucidated. Functional microRNAs that are reabsorbed into recipient cells down regulate their target proteins and therefore pathways, commonly exploited by advanced staged cancers.