



Primary Cell Cultures From Murine Kidney and Heart Differ in Endosomal pH

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Endosomal and lysosomal pH values have been determined for many established cultured cell lines of different origins. These cell lines may be grouped into two classes based on observed differences in pH of early (recycling) endosomes.

Members of the first class typically have an early endosomal pH of 6.2, whereas members of the second class typically have an early endosomal pH of 5.4.

Because established cell lines may have developed artificial differences in endosomal pH due to extended culture, it remains to be determined if endosomal pH differences exist in vivo and whether they are functionally significant. To address this question, we generated adherent primary explants from mouse kidney (primarily epithelial cells) and heart (primarily fibroblasts and cardiac muscle cells).

Interestingly, enhanced acidification was observed in heart cell endosomes (pH • 5.5) compared with kidney cell endosomes (pH • 6.0). These results indicate

that differences in endosomal pH do not solely arise from extended cell culture and imply that such differences may be important for the proper functioning of different cell types.

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