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KORANET PARTNERING EVENT

Research for life-long health

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**Calcium Control in Secretory Cells
and Related Diseases**



RESEARCH CENTRE

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PROJECT IDEA

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- -. All secretory cells have secretory granules that contain ~40 mM Ca^{2+} , accounting for the majority of total cellular calcium.
- -. Secretory granules contain >2 mM of chromogranins A and B, and secretogranin II.
- -. Chromogranins A and B, and secretogranin II are Ca^{2+} storage proteins.
- -. Secretory granules contain the majority of cellular inositol 1,4,5-trisphosphate receptor (IP3R) / Ca^{2+} channels.
- -. Chromogranins couple to the IP3R/ Ca^{2+} channels and activate the Ca^{2+} channels.
- -. All secretory cells contain secretory granules.
- -. Secretory granules are responsible for the majority of IP3-induced Ca^{2+} release in the cytoplasm.
- -. Secretory cell cancers (brain, lung, liver, pancreas, breast, prostate, etc.) show signs of excessive production of secretory granules.
- -. Excessive production of secretory granules will flood the cytosol with too much Ca^{2+} , leading to sickness or death of the cell.
- -. Control of secretory granule-based Ca^{2+} is likely to lead to breakthroughs in cancer studies.



EXPERTISE

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- -. Ca^{2+} control mechanisms by secretory granules.
- -. IP3-dependent Ca^{2+} control in the cytoplasm and nucleus of secretory cells.
- -. Biochemistry of chromogranins A and B, and secretogranin II.
- -. Biochemistry of IP3 receptor/ Ca^{2+} channels.
- -. Molecular neurobiology of neuroendocrine cells.





PARTNER SOUGHT

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- Labs with expertise in one of the following areas:
- -. Chromogranins A and B, and secretogranin II.
- -. IP3 receptor/Ca²⁺ channels in secretory cells.
- -. Ca²⁺ control mechanisms by secretory granules.
- -. Ca²⁺ control studies in the cytoplasm or nucleus of secretory cells.



CONTACT DETAILS

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