Resource Summary Report

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UC Davis - Glucagon

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Type: Protocol

Proper Citation

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Protocol Information

URL: https://dx.doi.org/10.17504/protocols.io.63ihgke

Authors: Peter Havel

Group: Mouse Metabolic Phenotyping Centers

Summary: Glucagon is a 29 amino acid polypeptide processed from proglucagon in pancreatic alpha cells. In intestinal L-cells proglucagon is cleaved into glicentin, corresponding to proglucagon residues no 1-69. Glicentin can further be processed into oxyntomodulin, corresponding to proglucagon residues no 33-69. These peptides are released simultaneously upon stimulation. Moreover, a fragment of glucagon corresponding to its Cterminal part (residues no 19-29), also designated mini-glucagon, is reported to be present in the pancreas in low amounts compared to the total glucagon content. In general, glucagon has an effect opposite that of insulin, i.e. it raises blood glucose levels. It causes the liver to convert glycogen into glucose, which is then released into the blood stream. With longer stimulation, glucagon action in the liver results in a glucose-sparing activation of free fatty acid oxidation and production of ketones. During hypoglycaemia, glucagon secretion offers a protective feedback mechanism, defending the organism against damaging effects of glucose deficiency in the brain and nerves.

RRIDs used: RRID:AB_2783839

Affiliations: University of California, Davis

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