

BASIC—Diabetes I**P1-266****IMMUNOHISTOCHEMICAL LOCALIZATION OF A NEW SERINE PROTEASE, HUMAN KALLIKREIN 6, IN THE ISLETS OF LANGERHANS AND OTHER ENDOCRINE ORGANS**

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The KLK6 gene is a new member of the human kallikrein gene family and encodes for a secreted protease, human kallikrein 6 (hK6; also known as zyme/protease M/neurosin). By reverse transcription-polymerase chain-reaction analysis, it has been shown that this gene is expressed in diverse tissues.

We have analyzed the total of 190 paraffin blocks prepared from almost every normal human tissue. We employed an hK6-specific polyclonal rabbit antibody and the method of avidin-biotin to immunohistochemically localize hK6 on 4µm thick sections. All tissues were fixed in buffered formalin. The staining pattern, the distribution of the immunostaining and its intensity were studied in detail.

The immunohistochemical expression of zyme was generally cytoplasmic. Various normal human tissues expressed the protein abundantly. Glandular epithelia constituted the main immunoreaction sites, with representative organs being the breast, prostate, kidney, endometrium, colon, appendix, salivary ducts, bile ducts and gallbladder. The small intestine, stomach, endocervix, fallopian tube, epididymis, bronchus and the upper respiratory tract showed a focal expression as well. Choroid plexus epithelium, peripheral nerves and neuroendocrine cells (including the islets of Langerhans and adrenal medulla) expressed the protein strongly and diffusely. A characteristic immunostaining was observed in the Hassall's corpuscles of the thymus, the oxyphilic cells of the thyroid and parathyroid glands, the primordial follicles of the ovary, dendritic cells mainly in the spleen and in various cells of the placenta. Its striking expression in the islets of Langerhans, but not in exocrine pancreas, suggest that this protease may be involved in pancreatic hormone processing.