

Nucleotide sequence of the human pancreatic trypsinogen III cDNA

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Pancreatic trypsin is synthesized in the acinar cells of the pancreas as an inactive precursor, trypsinogen. Two major and one minor form of trypsinogens have been found in human pancreatic juice, and designated as trypsinogen I, II and III, respectively (1). Using porcine trypsinogen cDNA as a probe, we have screened the human pancreatic cDNA library and isolated 57 positive clones. They were able to be categorized into three groups (two major and one minor groups) based on their restriction maps. Nucleotide sequence analysis revealed that cDNAs of two major groups

correspond to those of human pancreatic trypsinogen I and II (2), and that the minor group cDNA encodes trypsinogen III. The deduced amino acid sequence of trypsinogen III has 85.0% and 86.6% sequence homologies with those of trypsinogen I and II, respectively.

REFERENCES

1. Scheele, G. *et al.* (1981) *Gastroenterology* **80**, 461-473.
2. Emi, M. *et al.* (1986) *Gene* **41**, 305-310.

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ACACTTACCACCATGAATCCATTCCTGATCCTTGCCTTTGTGGGAGCTGCTGTGCTGTCCTCCCTTTGAC      70
      M N P F L I L A F V G A A V A V P F D
GATGATGACAAGATTGTTGGGGGCTACACCTGTGAGGAGAATTCTCTCCCTACCAGGTGTCCTGGAATT      140
D D D K I V G G Y T C E E N S L P Y Q V S L N S
CTGGCTCCCACTTCTGCGGTGGCTCCCTCATCAGCGAACAGTGGGTGGTATCAGCAGCTCACTGCTACAA      210
  G S H F C G G S L I S E Q W V V S A A H C Y K
GACCCGCATCCAGGTGAGACTGGGAGAGCACAACATCAAAGTCTGGAGGGGAATGAGCAGTTCATCAAT      280
  T R I Q V R L G E H N I K V L E G N E Q F I N
GCGGCCAAGATCATCCGCCACCCTAAATACAACAGGGACACTCTGGACAATGACATCATGCTGATCAAAC      350
A A K I I R H P K Y N R D T L D N D I M L I K L
TCTCTCACCTGCCGTCAATGCCCCGCTGTCCACCATCTCTCTGCCCCACGCCCTCCAGCTGCTGG      420
  S S P A V I N A R V S T I S L P T A P P A A G
CACTGAGTGCCCTCATCTCCGGCTGGGGCAACACTCTGAGCTTTGGTGTGACTACCCAGACGAGCTGAAG      490
  T E C L I S G W G N T L S F G A D Y P D E L K
TGCTGGATGCTCCGGTGTGAGGGAGGCTGAGTGTAAGCCTCCTGCCCTGGAAGATTACCAACAGCA      560
C L D A P V L R E A E C K A S C P G K I T N S M
TGTTCTGTGTGGGCTTCTTTGAGGGAGGCAAGGATTCTTGAAGCGTGACTCTGGTGGCCCTGTGGTCTG      630
  F C V G F L E G G K D S W K R D S G G P V V C
CAACGGACAGCTCCAAGAGTTGTCTCTCTGGGGCCATGGCTGTGCCTGGAAGAACAGGCCTGGAGTCTAC      700
  N G Q L Q G V V S W G H G C A W K N R P G V Y
ACCAAGTCTACAACATATGTGGACTGGATTAAGGACCCATCGCTGCCAACAGCTAAAGCCCCCGTCCC      770
  T K V Y N Y V D W I K D T I A A N S *
TCTGAGTCTCTATACCAATAAAGTGGCCCTGCTCTC

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The nucleotide sequence of human pancreatic trypsinogen III cDNA and the deduced amino acid sequence. The possible processing sites for the signal and activation peptides are shown by arrows. The consensus sequence for poly (A) addition is underlined.

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