

# Molecular cloning and sequencing of cDNA for rat cystatin $\beta$

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Rat cystatin  $\beta$  is an endogenous inhibitor of cysteine proteinases distributed in most rat tissues (1). Amino acid sequence of it was determined at protein level, but nucleotide sequence of cDNA for it is still unknown. Here, we reported the nucleotide sequence of cDNA for cystatin  $\beta$  isolated from regenerating islets of pancreas cDNA library by using synthetic oligonucleotide probes (2). Four independent cDNA clones were isolated from this library ( $3.2 \times 10^5$  independent clones) and the longest one was determined the nucleotide sequence by both directional sequencing. Nucleotide sequence of cDNA was shown in Figure 1. The deduced amino acid sequence is completely identical to that determined at protein level. This cDNA clone must be useful tool to investigate the mRNA levels in various tissues and the function of cystatin in cellular level.

## ACKNOWLEDGEMENT

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## REFERENCES

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                                -80
                                GCAGGTTTTCTAGGGTCCAGACACCCAG
                                -50
GTCTCCTAGTTGGCTCTCTCCGTAGCTTCTCTGTGATATTCTAACCCAGTGCTTGCCAAAG
1                               50
ATGATGTGTGGCGCGCCATCCGCCACAATGCCGGCCACGACCGAGACGCAGGAGATCGCC
M M C G A P S A T M P A T T E T Q E I A
                                100
GACAAGGTGAAGTCTCAACTTGAAGAGAAAGCAAATCAGAAGTTGATGTCTTTAAAGCC
D K V K S Q L E E K A N Q K F D V F K A
                                150
ATATCCTTCAGGAGACAGGTAGTGCCCGCACCAACTTCTTCATCAAGGTTGATGTCCGGC
I S F R R Q V V A G T N F F I K V D V G
                                200
GAAGAAAAATGTGTGCACTTGAGGGTGTGTTGAACCCCTCCCTCATGAGAACAAGCCTTTG
E E K C V H L R V F E P L P H E N K P L
                                250                               300
ACCTTGTCTTCTTACCAGACCGACAAAGAAAAGCAGATGAGCTAACCTACTTCTGATTA
T L S S Y Q T D K E K H D E L T Y F *
                                350
CTGCAGCCCCTTGGCAAATACTTCACCTTTGGAATCCGTGTTTGGGACCACGAAGTAAA
                                400
TACCCTCTGTGAGCAGCTTCCCTTGTGATGCCCAAACGGCGTGTATTTGTTTCTTTTC
                                450
CAAACAATTATTTTCAGAAAAGTGTATAAAAAGTATCTCTCTAAATATATATTTTGTAGAG
500
ACCGTAAAAAAAAAAAAAAAAA

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**Figure 1.** Nucleotide sequence and deduced amino acid sequence of cDNA for rat cystatin  $\beta$ . Nucleotide numbers were started at initiation codon. Underline shows poly (A) additional signal.

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