Isolation and sequencing of a cDNA clone encoding 107 kDa sialoglycoprotein in rat liver lysosomal membranes

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ABSTRACT A cDNA for 107 kDa sialoglycoprotein (LGP 107), the major protein component of rat liver lysosomal membranes, was isolated and sequenced. The 1.8 kbp cDNA contained an open reading frame encoding a polypeptide consisting of 386 amino acid residues (M, 41914). The deduced NH₂-terminal 10-residue sequence is identical with that determined for purified LGP 107. The primary structure deduced for LGP 107 contains 20 potential N-glycosylation sites and exhibits 82.5, 43 and 60% sequence similarities to mouse LAMP-1, chicken LEP 100, and a 120-kDa human lysosomal glycoprotein, respectively. Among these lysosomal glycoproteins, the amino acid sequence of the putative transmembrane segment is highly conserved. Northern blot hybridization analysis identified a single species of LGP 107 mRNA (2.1 kbp in length) in rat liver, kidney, brain, lung, spleen, heart and pancreas, its level in pancreas was very low.

抄録 ラット肝ライソゾーム膜の主要構成成分である107 kDa シアロ糖蛋白質 (LGP 107) の cDNA を単離し、その配列を決定した。1.8 kbp の cDNA から386のアミノ酸残基を決めたところ、そのN-グリコシド型糖鎖を持つことができるアミノ酸配列部位があった。LGP 107 はマウス (LAMP-1), チキン (LEP 100) そしてヒトから得られた糖蛋白質とそれぞれ、82.5, 43, そして 60% の相対性を示し、これらの蛋白質は膜を構成していると考えられるアミノ酸配列部位が非常によく一致していた。
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