

アロエベラゲル部のヒト・ハムスターセンイ芽細胞 増殖活性糖蛋白の単離とその性質

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Isolation and Characterization of the Glycoprotein Fraction with a Proliferation-promoting Activity on Human and Hamster Cells *in Vitro* from Aloe vera Gel

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ABSTRACT Fractions of leaf gel from *Aloe barbadensis* Mill. were prepared by gel permeation using DEAE Sephadex A-25, Sepharose 6B, and Sephadex G-50 columns. These were then tested by *in vitro* assays for proliferation of human normal dermal and baby hamster kidney cells. The glycoprotein fraction promoted cell growth, while the neutral polysaccharide fraction did not show any growth stimulation. Moreover, the polar-colored glycoprotein fraction strongly inhibited the *in vitro* assays. An active glycoprotein fraction (protein 82%, carbohydrate 11%) examined on polyacrylamide gel electrophoresis (PAGE) and SDS-PAGE showed a single band. Its molecular weight was 29 KD on a Sephadex G-50 column and its isoelectric point was pH 6.8. Immunoblotting after SDS-PAGE showed that the glycoprotein was composed of two subunits (14KD). Deglycosylation of glycoprotein (Pg21-2b fraction) by trifluoromethanesulphonic acid provided a protein band with a molecular weight of 13 KD on SDS-PAGE. The colored glycoprotein fraction was shown on SDS-PAGE to be a mixture with a molecular weight of 18 KD-15KD. It was later hydrolyzed with 10% H₂SO₄ to produce phenolic substances.

抄録 アロエベラ・ゲル部より生化学的方法により、ヒト正常上皮細胞の増殖を促進

する糖蛋白を分画した。この画分は(82% 蛋白、11% 炭水化物) PAGEとSDS-PAGE上単一バンドを示した。この画分はセファデックス G-50上、分子量29KDを示し、2つのsubunit(14KD)から構成され、脱グルコシル化で、13KDの分子量を示した。同時に分画された糖蛋白 (18-15KD)は、フェノール成分を含有し、細胞抑制作用を示した。