

The analysis of their molecular species was carried out using fast atom bombardment mass spectrometry after their separation by reversed phase high performance liquid chromatography. The heterogeneity in their ceramide moieties shown as the results suggested the presence of several routes in their metabolism.

(1) K. Nishimura, E. Sato and A. Nakamura (1987) *J. Biochem.*, **101**, 1315–1318.

(2) Y. Hirabayashi, A. Hamaoka, M. Matsumoto and K. Nishimura (1986) *Lipids*, **21**, 710–714.

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Structural Characterization of Neutral Glycosphingolipids of *Aspergillus fumigatus* by FAB-MASS Spectroscopy and ¹H-NMR Spectroscopy

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The structure and function of glycosphingolipids of fungi are less well known in comparison with those of animal tissue. We now report an extensive characterization of the glycosphingolipids isolated from strains of *A. fumigatus*, the etiological agent of different lung diseases including allergic asthma, aspergilloma and invasive aspergillosis, by high-resolution 1D, 2D ¹H- and ¹³C-NMR spectroscopy and fast atom bombardment mass spectrometry (FAB-MS).

The major glycosphingolipid of *A. fumigatus* obtained by silica gel 60 and latrobeads column chromatography followed by HPTLC chromatography corresponds to a monohexosylceramide. The ceramide monohexoside fraction (CMH) of *A. fumigatus*-NCPF 2140 was identified as glucosylceramide, whereas glucose and galactose were present in a ratio of 1:1 in the CMH of *A. fumigatus* NCPF 2109. The major glycosphingolipid has a particular ceramide composition containing 9-methyl-4,8-D-erythrosphingodienine linked to a 2-hydroxy-octadecenoic acid. The biological relevance of these molecules in *A. fumigatus* is still unclear.

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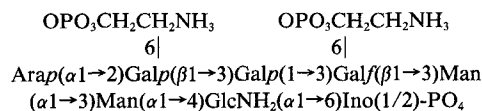
Structure of the Carbohydrate Moiety of the Glycophosphosphingolipid of *Endotrypanum schaudinni*

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A glycophosphosphingolipid was extracted from promatigotes of the trypanosomatid *Endotrypanum schaudinni* by phenol/

water extraction. Base treatment liberated a phosphoinositol oligosaccharide which was characterised by sugar analysis, FAB-MS and NMR spectroscopy, and shown to have the structure:



The Galp(α1→3)Galf(β1→3)Man(α1→3)Man(α1→4)GlcNH₂(α1→6)Ino-1-PO₄ motif is homologous to core structures in three *Leishmania* species (1). Terminal D-Arap(1→2)Gal has also been found in *Crithidia fasciculata* (2) and the LPG of *L. major* (1). The lipid portion is a ceramide, reminiscent of *T. cruzi*, and several lower trypanosomes (3). To date, the presence of more than one mole of ethanolamine phosphate has been considered a characteristic of protein-linked GPI anchors of higher eukaryotes only. A minor component was also characterised.

(1) McConville, M. J., Thomas-Oates, J. E., Ferguson, M. A. J. and Homans, S. W. (1990) *J. Biol. Chem.*, **265** 19611; Thomas, J. R., McConville, M. J., Thomas-Oates, J. E., Homans, S. W., Ferguson, M. A. J., Gorin, P. A. J., Greis, K. D. and Turco, S. J. (1992) *J. Biol. Chem.*, **267** 6829; Ilg, T., Edges, R., Overath, P., McConville, M. J., Thomas-Oates, J. E., Homans, S. W. and Ferguson, M. A. J. (1992) *J. Biol. Chem.*, **267** 6834. (2) Gorin, P. A. J., Previato, J. O., Mendonça-Previato, L. and Travassos, L. R. (1979) *J. Protozool.*, **26** 473. (3) Previato, J. O., Mendonça-Previato, L., Jones, C., Wait, R. and Fournet, B. (1992) *J. Biol. Chem.*, **267** 24279.

S19.24

Occurrence of a Novel Glycolipid Containing Phosphocholine in HTLV-I-Infected Cells

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Glycolipid compositions of HTLV-1-infected cell lines, MT-2, MT-4 and MT-4/HIV, have been examined.¹ Alkaline-labile, orcinol positive and Dittmer's reagent positive lipids could be detected, in addition to major glycosphingolipids, LacCer, GM2, GM1a and GD1a. Total lipid extract of MT-4 cells was applied to a DEAE-Sephadex column, and the obtained neutral lipid fraction was applied to a silica beads column chromatography. By repeated silica beads column chromatography, two alkaline-labile glycopospholipids (ALGL-1 and ALGL-2) were purified. The purified ALGL-1 was subjected to the structural characterization by TLC, GC, MS, FI-IR, and proton and ¹³C-NMR. ALGL-1 was found to contain fatty acids (C:16 and C:18), glycerol, α-glucose and phosphocholine. α-Glucose was attached to the primary alcohol of glycerol, and phosphocholine linked to the 6-position of the α-glucose. Complete structural characterization is in progress.¹ Matsuda, K., Hamanaka, S., Taki, T. *et al.*: Glycolipid compositions of human T-lymphotropic virus type-I (HTLV-I) and human immunodeficiency virus (HIV)-infected cell lines. *Biochim. Biophys. Acta* (in press.)

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Mapping Oligosaccharides Released from Gangliosides by High-Performance Anion Exchange Chromatography