

Leptospira interrogans serovar canicola Moulton 株から 抽出したリポ多糖体様物質 (LLS) の化学的性状

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Chemical Properties of Lipopolysaccharide-Like Substance (LLS) Extracted from *Leptospira interrogans* Serovar canicola Strain Moulton

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Abstract: The aqueous layer was isolated from *Leptospira interrogans* serovar canicola strain Moulton by the hot phenol-water method. After ultracentrifugation, the precipitate was designated as lipopolysaccharide-like substance (LLS) fraction and the chemical composition was compared with that of bacterial LPS. The LLS fraction consists of 35.2% carbohydrate, 3.8% amino sugar, 36.4% lipid, 15.2% protein, and 0.3% phosphorus. Neutral sugars were detected as rhamnose, arabinose, xylose, 4-O-methylmannose, mannose, galactose, and a small amount of erythrose, fucose and glucose by gas-liquid chromatography (GLC), but 2-keto-3-deoxyoctonic acid was not detected in the LLS by thiobarbituric acid test and high voltage paper electrophoresis. Fatty acids detected by GLC were decanoic acid (C10:0), dodecanoic acid (C12:0), dodecenoic acid (C12:1), tridecenoic acid (C13:1), tetradecanoic acid (C14:0), hexadecanoic acid (C16:0), hexadecenoic acid (C16:1), and octadecenoic acid (C18:1). With SDS-polyacrylamide gel electrophoresis, bacterial LPS showed many orderly bands, while the banding pattern of the leptospiral LLS was very simple. These findings demonstrate that the physicochemical properties and chemical composition of LLS fraction from *Leptospira* are different from those of LPS extracted from gram-negative bacteria such as Enterobacteriaceae, and suggesting that *Leptospira* has no typical LPS.

抄録 レプトスピラ・インタロガンス, カニコラのモールトン株菌体から熱フェノール水法で抽出分画したリポ多糖体様物質 (L L S) の化学的組成をグラム陰性細菌のリポ多糖体 L P S と比較検討した。L L S は炭水化物35.2%, アミノ糖3.8%, 脂質36.4%, タンパク質15.2%, リン酸0.3%を含む。中性糖はラムノース, アラビノース, キシロース, 4-0-メチルマンノース, マンノース, ガラクトースとエリスロース, フコース, グルコースを検出したが2-ケト-3-デオキシオクトン酸は検出されない。脂肪酸はC10:0, C12:0, C12:1, C13:1, C14:0, C16:0, C16:1, C18:1が検出された。S D S ポリアクリルアミド・ゲル電気泳動では細菌のL P S は多くの泳動バンドを示すのに対して, レプトスピラL L S のバンドは極めて少ない。これらの知見からレプトスピラのL L S はグラム陰性細菌のL P S とは異なり, 非定型的L P S と考えられる。

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