



# HOKKAIDO UNIVERSITY

Title	COMPARATIVE STUDIES OF STRAINS OF STRAINS ICTERO NO. I AND RGA AS THE TYPE STRAIN OF LEPTOSPIRA INTERROGANS : SEROLOGICAL CHARACTERS, PROTEIN AND ANTIGEN PROFILES AND DNA RESTRICTION ENDONUCLEASE PATTERNS
Author(s)	HATA, Katsura
Citation	Japanese Journal of Veterinary Research, 36(2), 148-148
Issue Date	1988-05-20
Doc URL	<a href="https://hdl.handle.net/2115/3092">https://hdl.handle.net/2115/3092</a>
Type	departmental bulletin paper
File Information	KJ00002377076.pdf



COMPARATIVE STUDIES OF STRAINS OF STRAINS ICTERO NO. I AND  
RGA AS THE TYPE STRAIN OF *LEPTOSPIRA INTERROGANS* :  
SEROLOGICAL CHARACTERS, PROTEIN AND ANTIGEN PROFILES AND  
DNA RESTRICTION ENDONUCLEASE PATTERNS

Katsura HATA

*Department of Hygiene and Microbiology  
Faculty of Veterinary Medicine  
Hokkaido University, Sapporo, Japan*

Strain Ictero No. I, isolated by Inada and Ido in 1914 from a patient with Weil's disease, was the first leptospira strain recognized. Although strain Ictero No. I was the first isolate of *L. interrogans*, strain RGA, which was isolated by Uhlenhuth and Fromme in 1915 from a patient with Weil's disease in Germany, has been referred to as the type strain of the species. The reason why strain Ictero No. I, the first isolate, was not referred to as the type strain of *L. interrogans* is due largely to the lack of valid publication. The present study provides further data on strain Ictero No. I and proposes that it is the legitimate type strain of *L. interrogans*.

Strain Ictero No. I was compared with strain RGA (2 lines, Sapporo and Amsterdam) by the agglutinin absorption test, SDS-polyacrylamide gel electrophoresis (SDS-PAGE), Western blotting, radioimmunoprecipitation, the API ZYM system and restriction endonuclease DNA analysis.

In the agglutinin absorption test, anti-Ictero No. I serum was not absorbed completely with strain RGA, and 25% of the homologous titer remained unabsorbed, while anti-RGA serum was completely absorbed with strain Ictero No. I. According to the criterion of classification of *Leptospira*, strain Ictero No. I was not serologically identical with strain RGA. Thus, the two strains should be considered as different serovars.

A protein band with a molecular weight of approximately 33K was detected in the extract of strain Ictero No. I but not in the extract of strain RGA by SDS-PAGE. This protein band was detectable with anti-Ictero No. I serum but not with anti-RGA serum by Western blotting. A similar difference in protein profiles was observed between strains Ictero No. I and RGA by radioimmunoprecipitation using [<sup>125</sup>I]-labeled antigens. The test indicated that a different protein antigen was surface-exposed.

No differences in the DNA restriction endonuclease patterns were found between strains Ictero No. I and RGA using restriction endonuclease BglII, EcoRI, HindIII or XhoI.

From the above results, we propose that strain Ictero No. I be designated as the type strain of *L. interrogans* instead of strain RGA.