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Letter to the Editor: Bacterial Origin of a "Stone Protein" by J.S. Mort and M.-C. Magny relating to: "Sequencing of Proteins Extracted from Stones" [by J.P. Binette, M.B. Binette, Scanning Microscopy Vol. 8, 233-239 (1994)]

January 28, 1997

Dear Editor,

We have recently made an observation that reflects directly on findings reported previously in this journal. Binette and Binette [1] described the isolation of a 40 kDa protein from human bile and kidney stones having the *N*-terminus, AVVGGGATLPEKLYG. We obtained an identical *N*-terminus for a 40 kDa protein which was sequenced by accident due to its presence in a contaminated buffer. Bacteria were recovered from this solution (100 mM Tris HCl, pH 7.5, containing 200 mM sodium chloride) on Luria Bertani plates at room temperature. The resulting colonies were identified as *Pseudomonas fluorescens*, a common, nutritionally and biochemically versatile, saprophytic bacterium, found in soil, water and on the surfaces of plants and animals [2]. A fresh sterile sample of the above buffer was inoculated with a single colony of this isolate. After two to three weeks at room temperature, analysis by SDS polyacrylamide gel electrophoresis showed essentially a single 40 kDa protein band. Sequencing of a larger amount of this protein gave the *N*-terminus:

AVVGGGATLPEKLYGXAATSVLA

(where the residue at cycle 16 could not be identified).

It seems, therefore, that the protein believed to have been isolated from human bile and kidney stones was of bacterial rather than human origin.

Sincerely yours,

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[1] Binette JP, Binette MB (1994) Sequencing of proteins extracted from stones. Scanning Microsc. **8**, 233-239.

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Reply by J.P. Binette and M.B. Binette

Dear Editor,

The assignment of the partial amino acid sequence of a "stone protein" to a bacterium is not surprising. We are aware of several studies reporting the recovery of bacteria from stones of the urinary tract [3, 4, 5, 6]. One study [7] reported the presence of bacterial DNA in cholesterol stones (14 of 15). The recovery of bacterial proteins from stones would therefore be expected to complete the triad.

Specifically, *Pseudomonas fluorescens* was recovered from two stones that were obtained at surgery and processed under sterile conditions [4]. No significant difference in recovery of bacteria was observed when stones were not processed under sterile conditions [4].

A search of the ATLAS database which combines SWISS PROT, PIR, and GENBANK does not reveal a match for the N-terminal sequence:

AVVGGGATLPEKLYGSTA.

If this is a protein from *Pseudomonas fluorescens*, it has not been entered in these databases as such.

Sincerely yours,

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