

Genus *Tatumella*

Tatumella ptyseos is the only species of the genus *Tatumella*. This organism is unusual for the family Enterobacteriaceae in several ways: stock cultures can be kept frozen in sheep red blood cells or freeze-dried, but they die in a few weeks on agar slants; they show more biochemical reactions at 25° C than at 35° C; they are motile at 25° C but not at 35° C; and they demonstrate large 15- to 36-mm zones of inhibition around penicillin disks. In addition, *Tatumella* isolates are slow growing, produce tiny colonies, and are relatively nonreactive in laboratory media. These organisms have been isolated from human sources, especially sputum, and may be a rare cause of infection.

BIOCHEMICAL REACTIONS OF *TATUMELLA PTYSEOS*

Test	Reaction/result
Triple Sugar Iron Agar	Acid butt/Acid slope/ No Gas/No H ₂ S
Oxidase	—
Catalase	+
Gas from glucose	—
Acid from glucose	+
xylose	—
mannitol	—
lactose	—
sucrose	+
maltose	—
Simmon's citrate 25°C	—
37°C	—
Urea, Christensen's	—
Phenylalanine deaminase	+(weak)
Nitrate reduction	—
Indole	—
MR	+
V-P	—
Gelatin hydrolysis	—
Esculin hydrolysis	—
Ornithine decarboxylase	—
Lysine decarboxylase	—
Arginine dehydrolase	—
Motility 25°C	+
37°C	—

and phenylalanine deaminase, sucrose, and catalase positive. Differences between *T. ptyseos* and other Enterobacteriaceae include a large zone of inhibition around penicillin, the tendency to die in blood agar in seven days and the small number of flagella. DNA studies have shown *Enterobacter agglomerans* to be the closest Enterobacteriaceae species, but the homology does not exceed 38% . Biochemical similarities have been observed between *T. ptyseos* and both *E. agglomerans* and *Chromobacterium violaceum*, but the DNA relatedness to

the latter is only 2% . A tight phylogenetic affiliation between *Pantoea* and *Tatumella* was recently demonstrated by partial sequencing of elongation factor Tu gene (*tuf*) and F-ATPase α sub unit gene (*atpD*). *Tatumella ptyseos* human infections have been exceedingly rare worldwide.

T. ptyseos is a rare opportunistic pathogen. Causes infection usually in patients with low immunity (associated with diabetes and tuberculosis). May be associated with bacteremia and urinary tract infections. Newborn and old organisms are more susceptible.

The organism was tested for antibiotic sensitivity to Gentamicin, Chloramphenicol, Cotrimoxazole, and Ampicillin. It was found sensitive to all the drugs tested.

Case Report

In November 2007, a 41-year-old woman was admitted to the Hospital with a clinical picture of intestinal sub occlusion. She reported a gastric reduction surgery two years before, on emergency exploratory laparotomy was performed. After seven days in the ICU, where she was treated with imipenem plus metronidazole, she was discharged to the ward. Two days later she started to have high fever, chills, tremor and hypotension. Blood tests showed leucocytosis, with a shift to the left (16,100 -5% bands) and increased CRP. An intravenous central line with secretions was observed; no other obvious source of infection was identified (Normal abdominal CT, chest X ray and urinalysis); consequently, a sepsis-associated catheter diagnosis was made. The catheter was sent to culture; it revealed positive for a nonfermentative Gramnegative rod identified by automated Microscan Baxter using a Dade Behring B101.7-119 plate as *T. ptyseos* (>99.9999% of probability and no second option), showing the following antimicrobial susceptibilities (MIC): amikacin (<16), ampicillin (>16), ampicillin/sulbactam (<8/4), ceftazidime (<2), cefazolin (<4), cefepime (<4), cephalothin (<8), ceftriaxone (16), ciprofloxacin (<0.5), cotrimoxazole (>2/38), gentamicin (<1), imipenem (>8), ofloxacin (<1), piperacillin (32), piperacillin/tazobactam (<16), ticarcillin/clavulanate (<16), and tobramycin (<4). She was put on a new antibiotic scheme with ampicillin/sulbactam; after 10 days, she was discharged, completely recovered.