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Antiae a novel biomarker for cytodiagnosics**Elena V Pikuta¹** and **Richard B Hoover²**¹Athens State University, USA²University of Buckingham, UK

Antiae is a recently discovered novel external organelle responsible for the gliding motility in bacteria. The antiae composed of plural thin fibers entangled in plexa that may be 10-20 folds of the cellular size, and spin in a coherent, unison rotation around the cell cylinder causing a high-sequence trembling that results a smooth slow gliding.

DAPI stain of strain A7P-90mT demonstrated the absorbance of the stain by the antiae that indicates on possible RNA or DNA molecules involvement in cellular constitution. UV absorbency pick of the living culture was at 300 nm as well as a filtrated through 0.2 µm filter liquid containing antiae. Here we discuss the results of the proton, sodium pumps and ATPase inhibition effects on the cellular motion. We also present the results of RNase and DNase treatment along with the thiamine bromide stain with UV imaging.

We also discuss the chemical composition of the antiae with increased amounts of fluorine and silicon according to X-ray spectrophotometry. Presence of the antiae was shown in other bacterial species and Archaea, as well as in viruses. Histopathology of sarcoma and other malignant cancers demonstrated presence of antiae in cell-free areas affected by cancer tissues that makes them an important biomarker in cytodiagnosics.

Key words: bacterial gliding, external organelle antiae, cytodiagnosics, pathohistology, X-ray spectroscopy.

Biography

Elena V Pikuta received her MS in 1995 at Perm State University in Russia, on Biology faculty. She was a practicing nurse in Surgery Department of the Regional Hospital in Perm for one year. She received her BS degree received in 1984 from Perm Medical College. In University she also defended Diploma in Biophysics "The Dielectric Parameters of Tissues at Hypoxia". She was employed by the Institute of Ecology and Genetics of Microorganisms, The Ural Branch of Russian Academy of Sciences, as a research assistant. She had finished her PhD in 1997 at the Institute of microbiology of RAS in Moscow, the thesis was "Alkaliphilic Sulfate-Reducing Bacteria".

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