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Benjamin Werth  
Science Editor  
JoVE

Dear Mr. Werth,

Attached, please find a manuscript for publication in JoVEentitled: “High Resolution Physical Characterization of Single Metallic Nanoparticles” by Ettedgui, et al. The results should be of interest to experimentalists in electrophysiology, applied science and chemistry communities.

This manuscript reports a new method to detect and characterize of metallic nanoclusters using single molecule nanopore-based measurements. This technique allows the simultaneous determination of multiple species in solution, and is several orders of magnitude more sensitive than conventional analytical techniques. Specifically, we show that a protein nanopore can identify the change in concentration of 12-phosphotungstic acid derivatives induced by pH changes.

The results suggest that nanopore measurements can serve as a complementary approach with enhanced sensitivity to traditional analytical chemistry tools in the study of polyoxometalates and extends analysis to the single molecule limit. This method opens further possibilities in the characterization of metallic clusters.

Thank you for your consideration of this manuscript.

I look forward to hearing from you,

Best Regards,

Jessica Ettedgui, Ph.D.