Engineering

Data on Engineering Reported by Researchers at Syracuse University

2012 JUL 11 (VerticalNews) -- By a News Reporter-Staff News Editor at Journal of Engineering -- Research findings on Engineering are discussed in a new report. According to news reporting originating in Syracuse, New York, by VerticalNews journalists, researchers stated "One intimidating challenge in protein nanopore-based technologies is designing robust protein scaffolds that remain functionally intact under a broad spectrum of detection conditions. Here, we show that an extensively engineered bacterial ferric hydroxamate uptake component A (FhuA), a beta-barrel membrane protein, functions as a robust protein tunnel for the sampling of biomolecular events." The news reporters obtained a quote from the research by the authors from Syracuse University, "The key implementation in this work was the coupling of direct genetic engineering with a refolding approach to produce an unusually stable protein nanopore. More importantly, this nanostructure maintained its stability under many experimental circumstances, some of which, including low ion concentration and highly acidic aqueous phase, are normally employed to gate, destabilize, or unfold beta-barrel membrane proteins." According to the news reporters, the researchers concluded: "To demonstrate these advantageous traits, we show that the engineered FhuA-based protein nanopore functioned as a sensing element for examining the proteolytic activity of an enzyme at highly acidic pH and for determining the kinetics of protein-DNA aptamer interactions at physiological salt concentration." For more information on this research see: Engineering a Rigid Protein Tunnel for Biomolecular Detection. *Journal of the American Chemical Society*, 2012;134(22):9521-9531. *Journal of the American Chemical Society* can be contacted at: Amer Chemical Soc, 1155 16TH St, NW, Washington, DC 20036, USA. (American Chemical Society - www.acs.org; Journal of the American Chemical Society - www.pubs.acs.org/journal/jacsat) Our news correspondents report that additional information may be obtained by contacting M.M. Mohammad, Syracuse University, Syracuse Biomat Inst, Syracuse, NY 13244, United States. Keywords for this news article include: Syracuse, New York, United States, Genetic Engineering, North and Central America Our reports deliver fact-based news of research and discoveries from around the world.

2012 JUL 11 (VerticalNews) -- By a News Reporter-Staff News Editor at Journal of Engineering -- Research findings on Engineering are discussed in a new report. According to news reporting originating in Syracuse, New York, by VerticalNews journalists, researchers stated "One intimidating challenge in protein nanopore-based technologies is designing robust protein scaffolds that remain functionally intact under a broad spectrum of detection conditions. Here, we show that an extensively engineered bacterial ferric hydroxamate uptake component A (FhuA), a beta-barrel membrane protein, functions as a robust protein tunnel for the sampling of biomolecular events." The news reporters obtained a quote from the research by the authors from Syracuse University, "The key implementation in this work was the coupling of direct genetic engineering with a refolding approach to produce an unusually stable protein nanopore. More importantly, this nanostructure maintained its stability under many experimental circumstances, some of which, including low ion concentration and highly acidic aqueous phase, are normally employed to gate, destabilize, or unfold beta-barrel membrane proteins." According to the news reporters, the researchers concluded: "To demonstrate these advantageous traits, we show that the engineered FhuA-based protein nanopore functioned as a sensing element for examining the proteolytic activity of an enzyme at highly acidic pH and for determining the kinetics of protein-DNA aptamer interactions at physiological salt concentration." For more information on this research see: Engineering a Rigid Protein Tunnel for Biomolecular Detection. *Journal of the American Chemical Society*, 2012;134(22):9521-9531. *Journal of the American Chemical Society* can be contacted at: Amer Chemical Soc, 1155 16TH St, NW, Washington, DC 20036, USA. (American Chemical Society - www.acs.org; Journal of the American Chemical Society - www.pubs.acs.org/journal/jacsat) Our news correspondents report that additional information may be obtained by contacting M.M. Mohammad, Syracuse University, Syracuse Biomat Inst, Syracuse, NY 13244, United States. Keywords for this news article include: Syracuse, New York, United States, Genetic Engineering, North and Central America Our reports deliver fact-based news of research and discoveries from around the world.