PURIFICATION AND CHARACTERIZATION OF GLYCERALDEHYDE-3-PHOSPHATE DEHYDROGENASE FROM *CAENORHABDITIS ELEGANS.* Valeria S. M. Valbuena, Megan K. Gautier, Justin W. Spengler, M. Banks Greenberg, M. Leigh Cowart, Katherine M. Walstrom, New College of Florida, Div. of Natural Sciences, Sarasota, FL 34243

C. elegans has four *gpd* genes. The genes *gpd-1* and *gpd-4* are nearly identical and mainly expressed in embryos, while the homologous *gpd-2* and *gpd-3* are expressed in postembryonic worms (Huang et al., 1989, JMB 206, 411). In this project, high yields of worm extracts were achieved by large-scale worm production in egg plates. GPD was purified from mixed populations of *C. elegans* using a new protocol that included gel filtration and Blue Sepharose CL-6B affinity chromatography. In comparison to the previous methods described by Yarbrough and Hetch (JBC 259, 14711, 1984), our purification resulted in a higher yield of enzyme. Based on the Yarbrough and Hetch results, we expect that our GPD sample consists mainly of the adult GPD-2 and GPD-3 enzymes. The reaction conditions were optimized, and a pH near 8.5 was a critical condition for maximum GPD activity with the glyceraldehyde-3-phosphate (G3P) substrate. Kinetic assays with varying concentrations of G3P and NAD^+ were performed.