

Department of Biology presents

“Characterization of Lysyl Oxidase”

ABSTRACT. Lysyl oxidase is an extracellular matrix, copper-dependent, amine oxidase that catalyzes a key crosslinking step in collagen and elastin. The enzyme is synthesized as a proenzyme that, upon excretion to the extracellular matrix, is cleaved at the Gly168 – Asp169 bond by procollagen C-proteinase in the mammalian form of the enzyme. Lysyl oxidase is highly regulated and changes in its regulation have been shown to play a role in fibrosis and several other diseases. More recently, the enzyme has been shown to play a paradoxical role in cancer. In the early stages of cancer, the cleaved propeptide has been shown to inhibit the Ras oncogene, whereas in late stages of cancer lysyl oxidase has been shown to promote metastasis. Lysyl oxidase is highly insoluble and this has hampered its full characterization. Recent work in the Lopez group has addressed some of the issues associated with the insolubility and characterization of the enzyme. In particular, this talk will address how plasmids were used to increase enzyme yields over those obtained directly from bovine aortic tissue, the role solubility tags play on enzyme activity and suitability for characterization studies, and will end with an innovative new approach to drug delivery that targets lysyl oxidase in cancer cells.

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3:00 PM

Science 2, Room 109

For further information: www.csufresno.edu/biology or phone 278-2001. If you need a disability-related accommodation or wheelchair access information, please contact Lindasue Garner at the Department of Biology @ 278-2001 or e-mail lgarner@csufresno.edu (at least one week in advance of event).