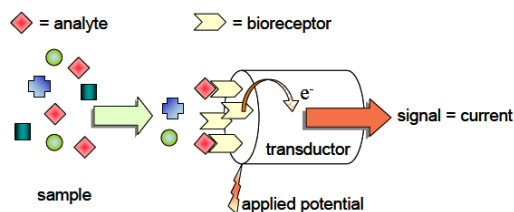


Toward an Inexpensive Test for Vitamin D Levels in Blood

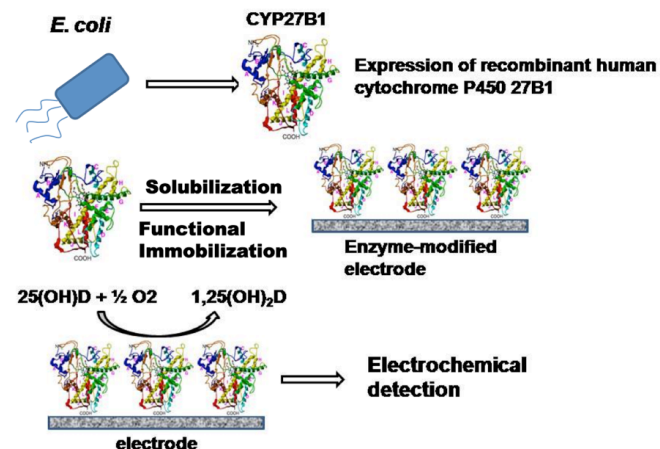
Objective: Explore the feasibility of an inexpensive means of monitoring vitamin D in clinics or in a doctor's office.

Description of Research: Approaches that reduce by as much as a factor of ten the cost of vitamin D monitoring are explored through the development of enzyme electrodes. Protein engineering methods and electroanalytical approaches will be utilized for achieving this objective.



Scheme showing the functional principles of an amperometric biosensor¹

¹Belluzo *et al.*, *Sensors* (2008), 8, 1366.



Major Challenges: 1) Producing and 2) Immobilizing enzyme actively and 3) Developing detection method.

Benefits of Proposed Technology: Vitamin D is essential for fitness, and low levels have been associated with neuropsychiatric disorders such as depression and Alzheimer's.

The availability of a fingerstick blood measurement that immediately provides vitamin D levels would clearly maximize optimization and individualization of vitamin D supplementation.

Vitamin D Levels in Different Foods²



²<http://www.webmd.com>

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