

Required Characteristics of a Biosensor

- Sensitivity
- Selectivity
- Low detection limits
- Simplicity
- Reliability
- Speed
- Accuracy
- Response time
- Field portability
- Reproducibility
- Ease of calibration
- Stability
- Room for improvement

Amperometric Biosensor

- Amperometric biosensors are those which measure the reaction of analyte with enzyme and generate electrons directly or through a mediator.
- Enzyme electrodes are a new type of biosensor which have been designed for the assay of substrates such as urea, amino acid, glucose, alcohol and lactic acid. The enzyme is embedded in thin permeable membrane and produce oxygen, hydrogen, ammonia, carbon dioxide and other small molecules. This is detected by specific sensor.

Example of Biosensors



Pregnancy test

Detects the hCG protein in urine. Interpretation and data analysis performed by the user



Glucos monitoring device (for diabetes patients)

Monitors the glucose level in the blood. Interpretation and data analysis performed by a microprocessor.

Example of Biosensors



Infectious disease biosensor from RBS

Data analysis and interpretation performed by a microprocessor



Old time coal miners' biosensor

Data analysis and interpretation performed by the coal miner.