

A new approach to selective detection of 2,4-dichlorophenoxyacetic acid with a cholinesterase amperometric biosensor

Medyantseva E., Vertlib M., Budnikov G., Tyshlek M.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

A new method of detection of 2,4-dichlorophenoxyacetic acid by means of immobilized monoclonal antibodies and an amperometric cholinesterase biosensor is proposed. A combination of monoclonal antibodies to 2,4-dichlorophenoxyacetic acid with an enzyme electrode provides high selectivity of measurements and allows trace amounts of this pesticide to be detected within a concentration range of 1×10^{-11} to 5×10^{-7} M with a sensitivity threshold of 5×10^{-12} M.
