

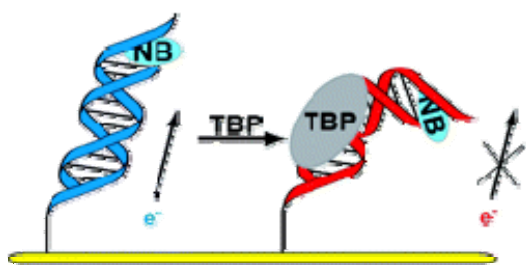
Electrical Detection of TATA Binding Protein at DNA-Modified Microelectrodes

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Abstract:

A simple method for the electrochemical detection of TATA-binding protein is demonstrated at DNA-modified microelectrodes. The assay is general and based on the interruption of DNA-mediated charge transport to Nile Blue, a redox-active probe covalently attached to the DNA base pair stack. Nanomolar quantities of TATA binding protein can be detected on the microelectrodes even in the presence of micromolar amounts of bovine serum albumin, EndonucleaseIII, or Bam HI methyltransferase. The scheme outlined provides a basis for the sensitive electrical detection of numerous proteins on a single DNA chip.