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**Sensitive Detection of cytokine in Complex Biological Samples  
by using MB track mediated DNA walker and nicking enzyme  
assisted signal amplification method combined biosensor**

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**Abstract**

Highly sensitive detection of proteins is essential to biomedical research as well as clinical diagnosis. However, usual detecting methods are complicated operating, time-costing and extensive label preparing. Here, we combined molecular beacon (MB) track mediated DNA walker and nicking enzyme assisted signal amplification method to develop a simple and ultrasensitive malachite green fluorescence biosensor for specific detection cytokine, interferon- $\gamma$  (IFN- $\gamma$ ). The association of the IFN- $\gamma$  with the corresponding aptamers of the dsDNA strands leads to free of DNA walker which triggered the generation of DNA track at the help of Nicking endonuclease (Nb.BbvCI).

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