

Highly sensitive protein detection with DNA nanobarcodes

한대훈, 이종범*
서울시립대학교
(jblee@uos.ac.kr*)

Protein detection method has been developed continuously for highly sensitive detection. However, despite of advanced development, limits are still existed. Herein, we report the sensitive novel protein detection method by using DNA nanostructures (DNA nanobarcodes). Our method used strong interaction between aptamer and protein. Prepared aptamer-based microsphere binds with fluorescently DNA nanobarcodes which has partially complementary sequences to aptamer. However, due to the present of specific protein, DNA nanobarcodes can be replaced to protein. This replacement induces decrease of fluorescent intensity. Therefore, through the measurement of fluorescent intensity, protein detection can be confirmed by flow cytometry. Moreover, because our method can be used in multi-target detection field, our method has great potential for sensitive and efficient protein detection.