

Quantification of circulating cancer biomarkers via sensitive topographic measurements on single binder nanoarrays

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Supporting Information

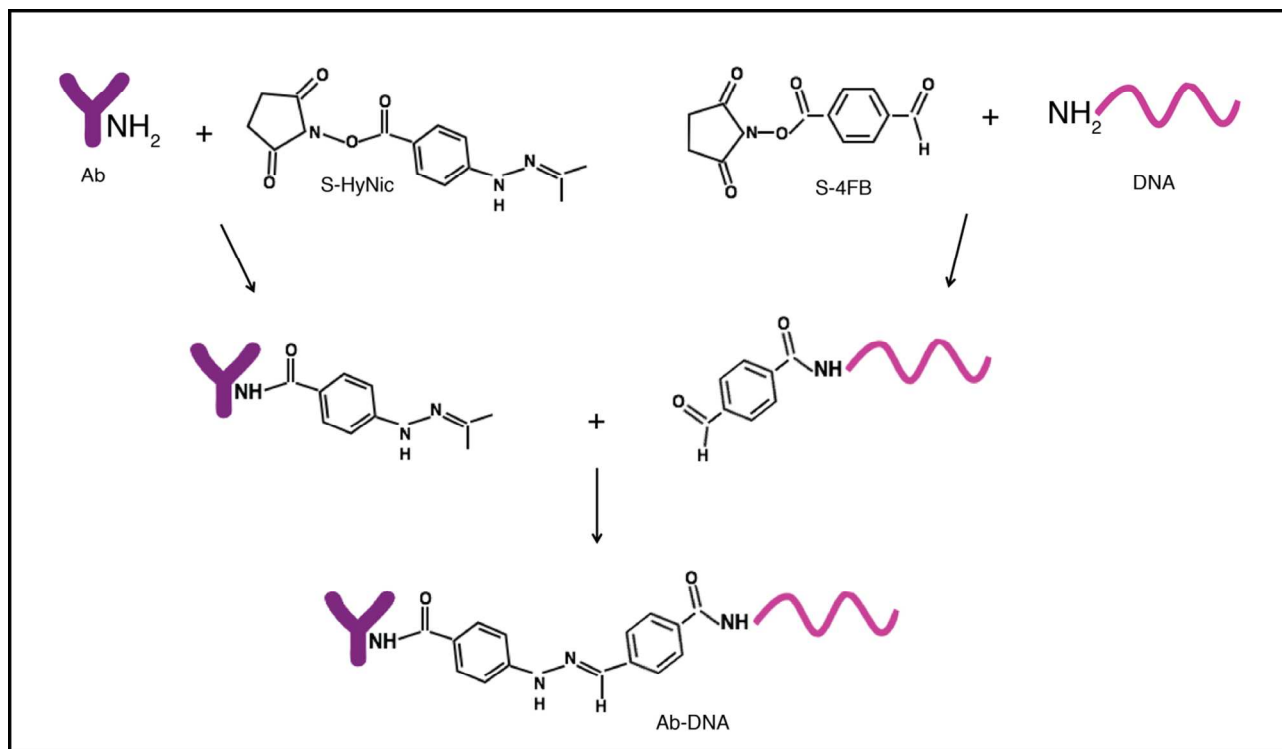


Figure S1 Schematic representation of Antibody-DNA conjugation reaction: first the Ab is functionalized with S-HyNic group and DNA is linked to S-4FB group. Then these two groups react to provide a covalent Ab-DNA conjugate.

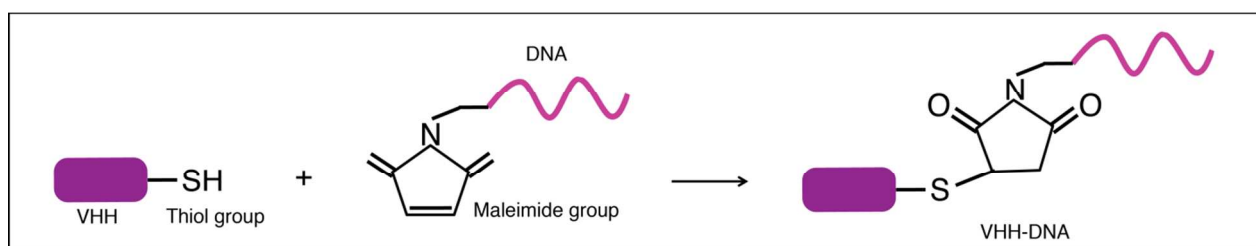


Figure S2 Schematic representation of nanobody-DNA conjugation reaction: the Cys thiol group at the C-term of VHH reacts with the maleimide group attached to the 5' end of the DNA sequence.

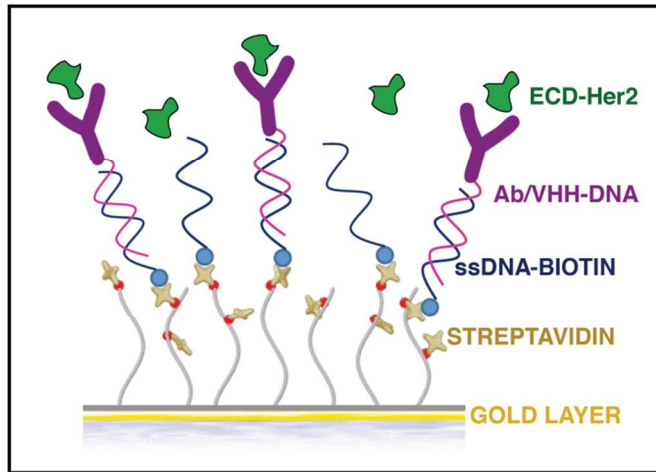


Figure S3 Schematic representation of the SPR experimental approach: the ssDNA is attached on streptavidin (SA) surface through streptavidin-biotin bond; then the ligand Ab-DNA conjugate is immobilized by hybridization and the ECD-Her2 is run as analyte over the surface.

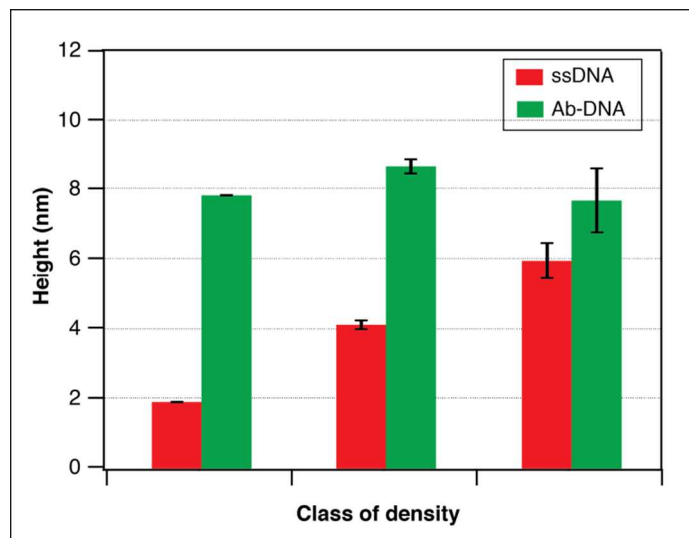


Figure S4 Histogram created collecting different experiments (number of experiments: 30); data are subdivided into classes of density defined through the ssDNA patches relative height. Error bars represent the standard deviation; red: grafting of ssDNA; green: hybridization of Ab-cDNA conjugate.

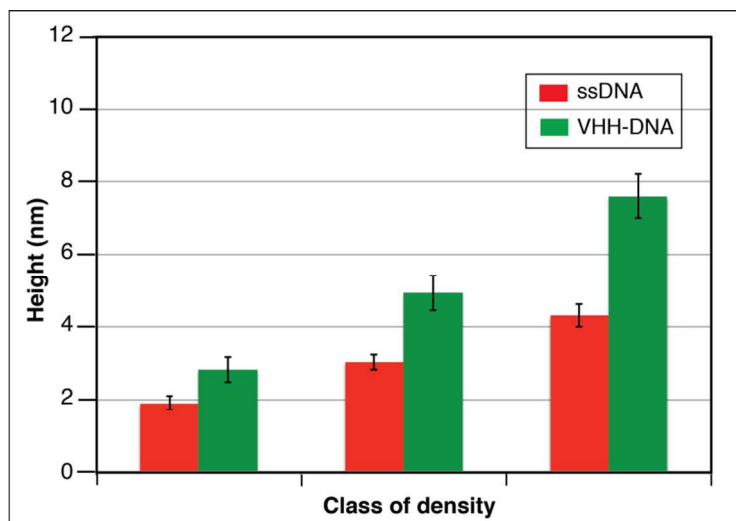


Figure S5 Histogram created collecting different experiments (number of experiments: 30); data are subdivided into classes of density defined through the ssDNA patches relative height. Error bars represent the standard deviation; red: grafting of ssDNA; green: hybridization of Nb-cDNA conjugate.

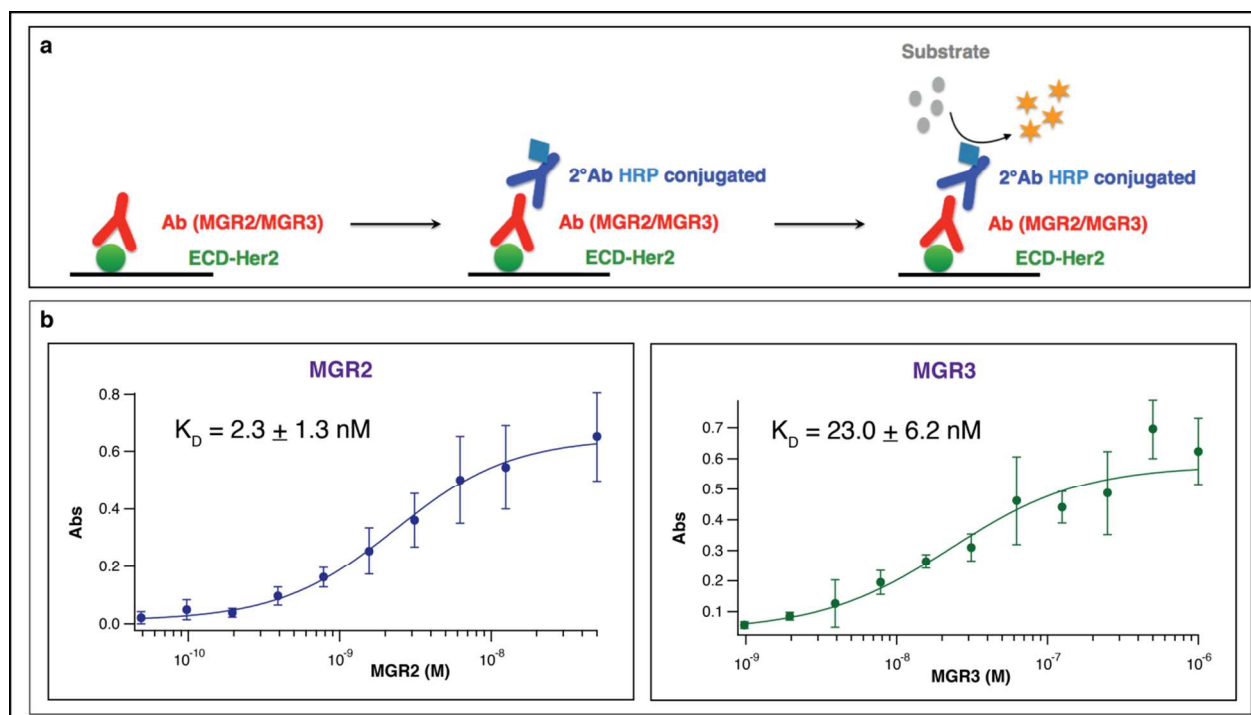


Figure S6 Indirect ELISA. (A) Schematic representation of the assay. (B) Determination of binding affinity between ECD-Her2 and antibodies (MGR2 and MGR3). Absorbance is measured at 450 nm and plotted as a function of Ab concentration (values in duplicate). Data are fitted with Hill equation.