Supplementary Information

An enhanced strip biosensor for rapid and sensitive detection of histone methylation

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Bradford Protein Assay. The Bradford reagent was prepared as follows: 100 μg of Coomassie Blue G-250 was dissolved in 50 ml of 95% ethanol and 100 μL of 85% (w/v) phosphoric acid was added to this solution. Then distilled water was added to reach a final volumn of 1 L to obtain Bradford working solution. The concentration of protein or antibody was determined as follows: (a) Different amounts (2.5, 5, 10, 20, 25, 40 and 50 μg) of BSA, 10 μL of histone extract, cytoplasmic protein extract, nuclear matrix protein extract and biotinylated antibody were added into the wells of a 96-well plate, each well repeated three times. (b) 40 μL of Bradford working solution was added into each well. (c) Distilled water was added into each well to reach the final volume of 200 μL. (d) The absorbance value was recorded by a microplate reader at 595 nm in 5 min. The standard curve of absorbance value *vs.* the amount of BSA was showed in Figure S1.

The absorbance value at 595 nm is proportional to the protein concentration in each well. The relationship between the amount of protein concentration and absorbance value was defined by the equation: y= 0.0112 x +0.5996. A linear relationship is observed (R=0.99) in Figure S1. Protein concentration of histone extract, cytoplasmic protein extract, nuclear matrix protein extract and the concentration of biotinylated antibody were calculated using this equation.

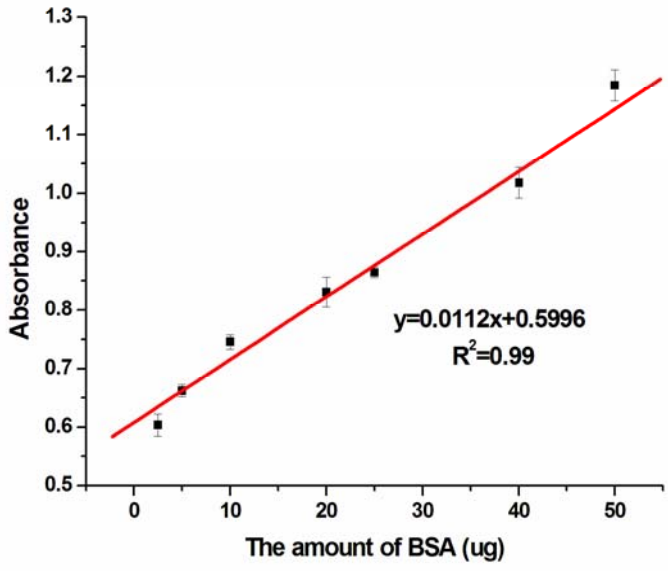

Figure S1. Standard curve with different amounts (2.5, 5, 10, 20, 25, 40 and 50 μg) of BSA. The error bars represent the standard deviation of three independent measurements.