Significant structural change in human c-Myc promoter G-quadruplex upon peptide binding in potassium

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Note: Nikita Kundu, Taniya Sharma, and Sarvpreet Kaur share equal contribution.

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Supporting Information

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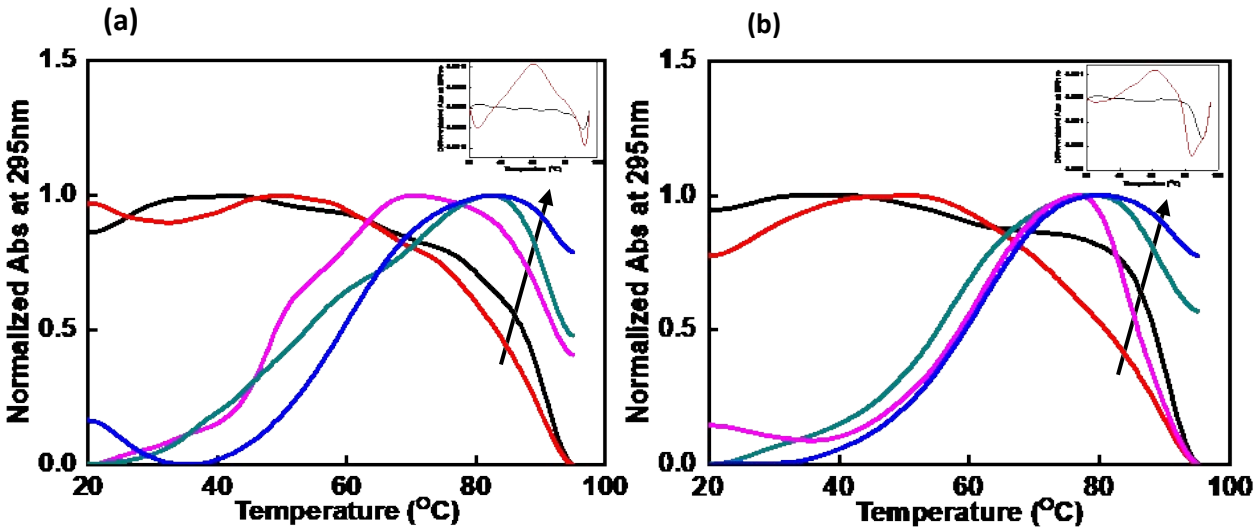

Figure S1 Normalized UV melting curves of 4 μM c-Myc promoter G4 in buffer containing 100 mM KCl with 40 wt% PEG 200 (a) and 100 mM KCl with 20 wt% PEG 8000 (b), 0.5 mM EDTA without any additive (black line), c-Myc promoter G4:QW10 ratio (1:1) (red line), (1:2) (pink line), (1:5) (green line) and (1:10) (blue line).

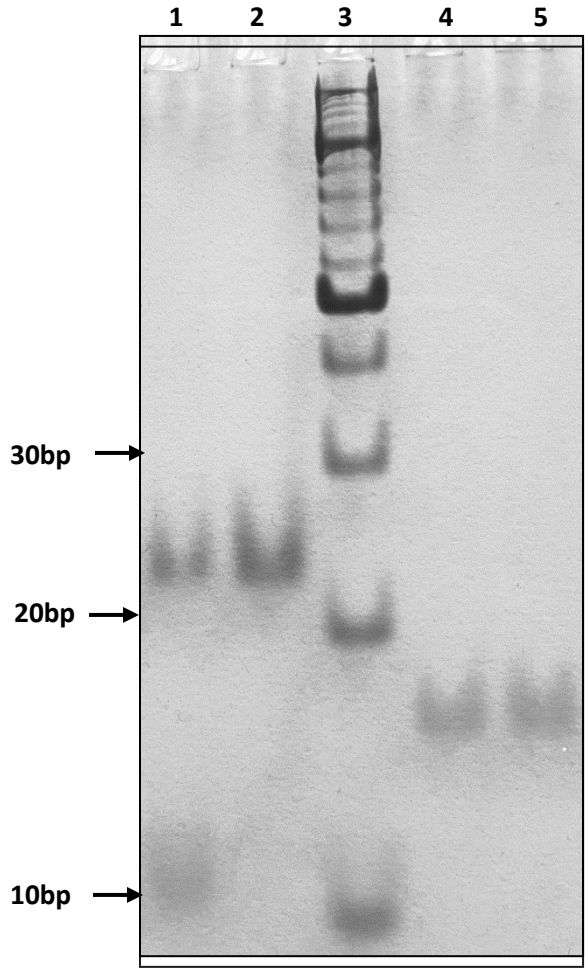

Figure S2: Native Gel Electrophoresis of 4μM HTPu.HTPy (Duplex) in 30 mM sodium cacodylate buffer (pH 7.0) and HTPy (pH 5.7), 1 mM EDTA, 100 mM KCl. Lane 1 is DNA duplex: peptide (1:10), Lane 2 is DNA duplex, Lane 3 is 10 bp ladder, Lane 4 is HTPy: Peptide (1:10) and Lane 5 is HTPy only.

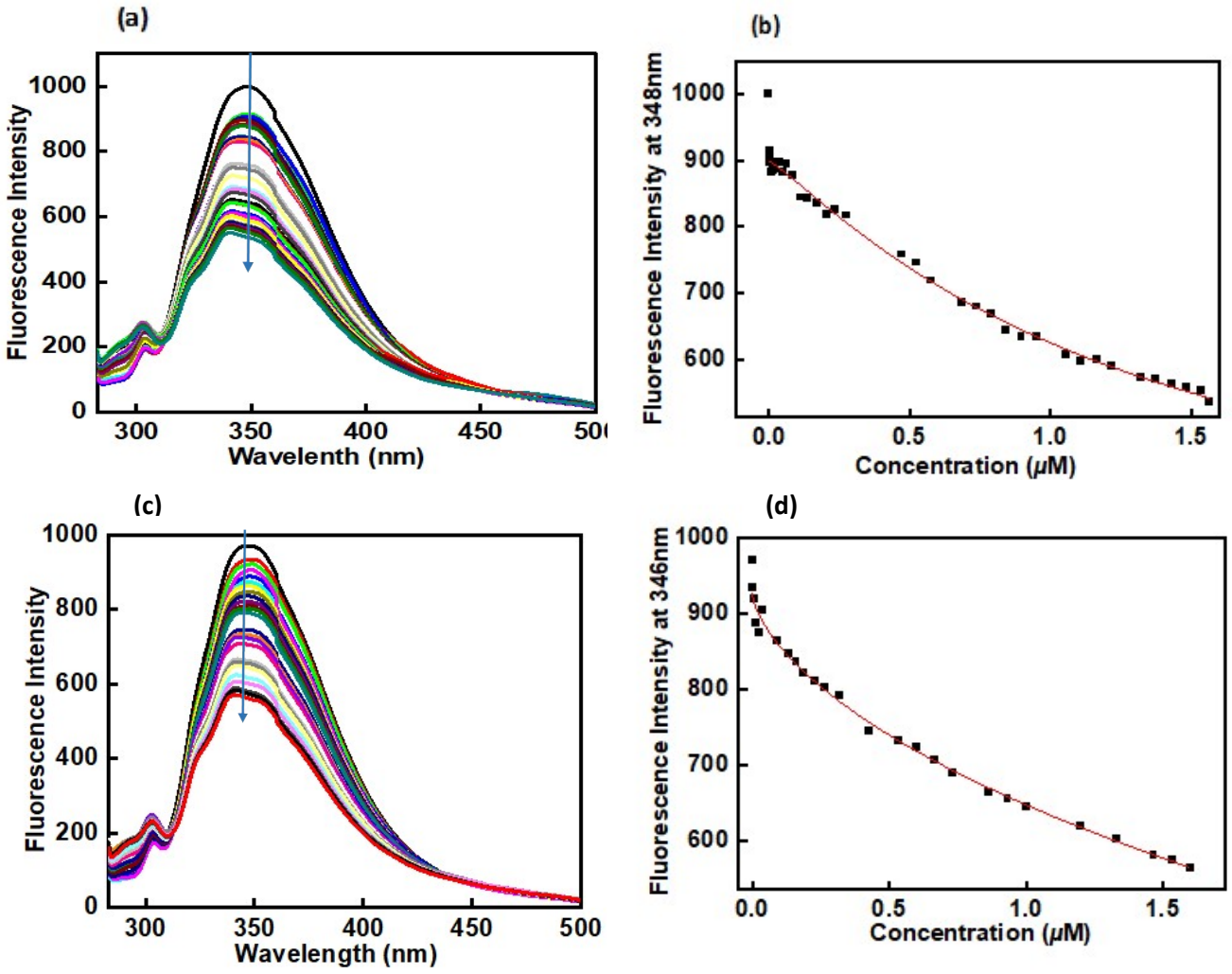

Figure S3: Emission spectra of QW10 peptide with HTPu.HTPy duplex in buffer (pH 7.0) (a) and HTPy in buffer (pH 5.7) (c) containing 0.5 mM EDTA, 100 mM KCl at 25°C. QW10 = 4μM was titrated with equimolar preformed HTPu.HTPy duplex and i-motif structure in an increasing concentration. Normalized fluorescence intensity at 348 nm (F_{348}), 346 nm (F_{346}), with various concentrations of HTPu.HTPy duplex in KCl (b), HTPy i-motif (d) at 25°C respectively.

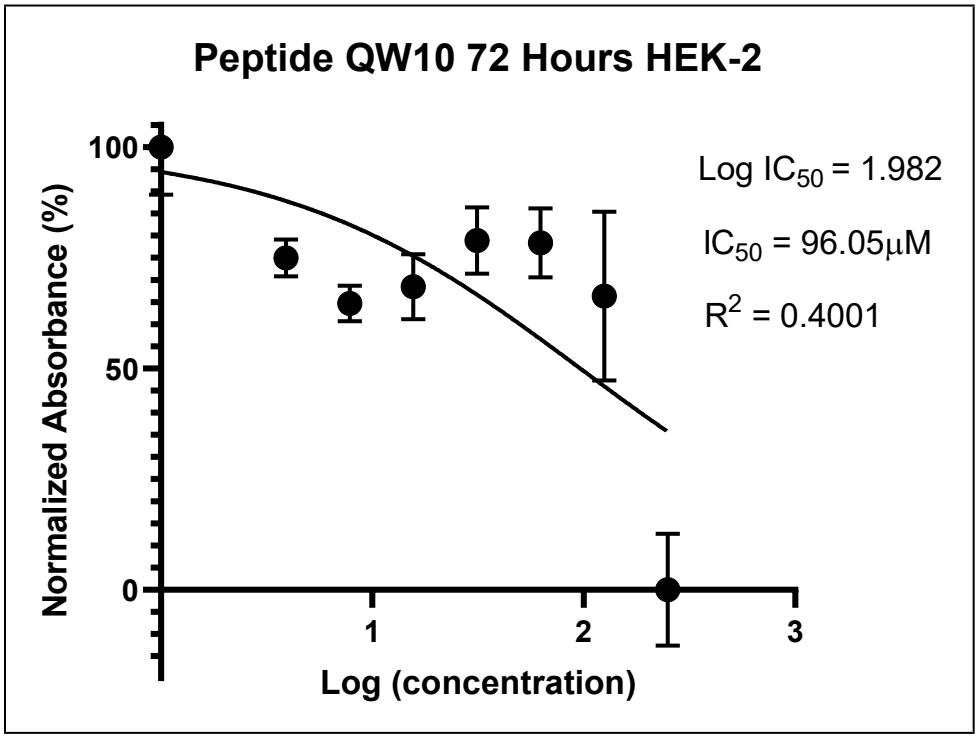

Figure S4. QW10 demonstrated the normal effects on human embryonic kidney cells HEK-2 (A). Difference in absorbance is due to the different rate of formazan formation at 72 h of cells incubated with QW10 at concentrations ranging from 40μM down to 39 nM. The data is analyzed by comparing the changes in the absorbance from cells with media only (control).