ACS Omega Supporting Information

An antimiR-155 cyclic peptide-PNA conjugate: synthesis, cellular uptake, and biological activity

Terese Soudah[a], Saleh Khawaled [b], Rami I. Aqeilan [b], Eylon Yavin*[a]

[a]The Institute for Drug Research, The School of Pharmacy, The Hebrew University of Jerusalem, Hadassah Ein-Kerem, Jerusalem 9112102, Israel.

[b]Lautenberg Center for Immunology and Cancer Research, Institute for Medical Research Israel-Canada, The Hebrew University of Jerusalem, Hadassah Ein-Kerem, Jerusalem 9112102, Israel.

E-mail: eylony@ekmd.huji.ac.il; Fax:+972-2-6757574; Tel:+972-2-6758692.

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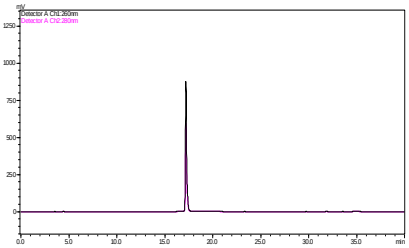
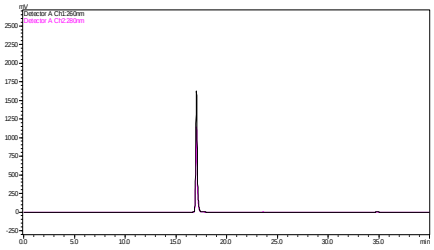
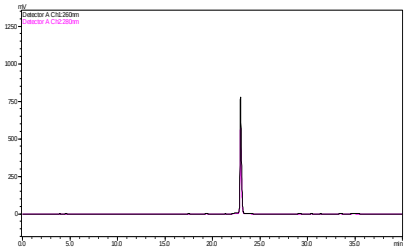
dK$_4$-PNA



dK$_4$-PNA-Scr



C$_9$-PNA



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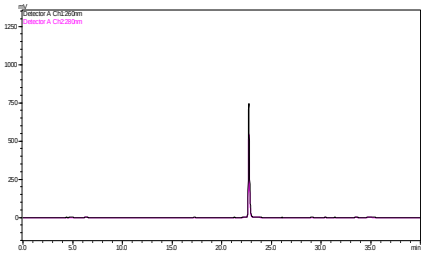


Figure S1. HPLC chromatograms of purified PNA-peptide conjugates. Over 95% purity for all PNA-peptide conjugates.

RP-HPLC (Shimadzu LC2010), semi-preparative C18 reverse-phase column (Phenomenex, Jupiter 300 A) at a flow rate of 4 mL/min. Mobile phase: 0.1% TFA in H_2O (A) and acetonitrile (B).
Gradient: Initial −90% A, 10% B. 10 min − 40% A, 60% B. 30 min −10% A, 90% B. 30.01 min −10% A, 90% B. 37 min – 95% A, 5% B. 37.01 min– 95% A, 5% B. 40 min–stop, 44.01 min.

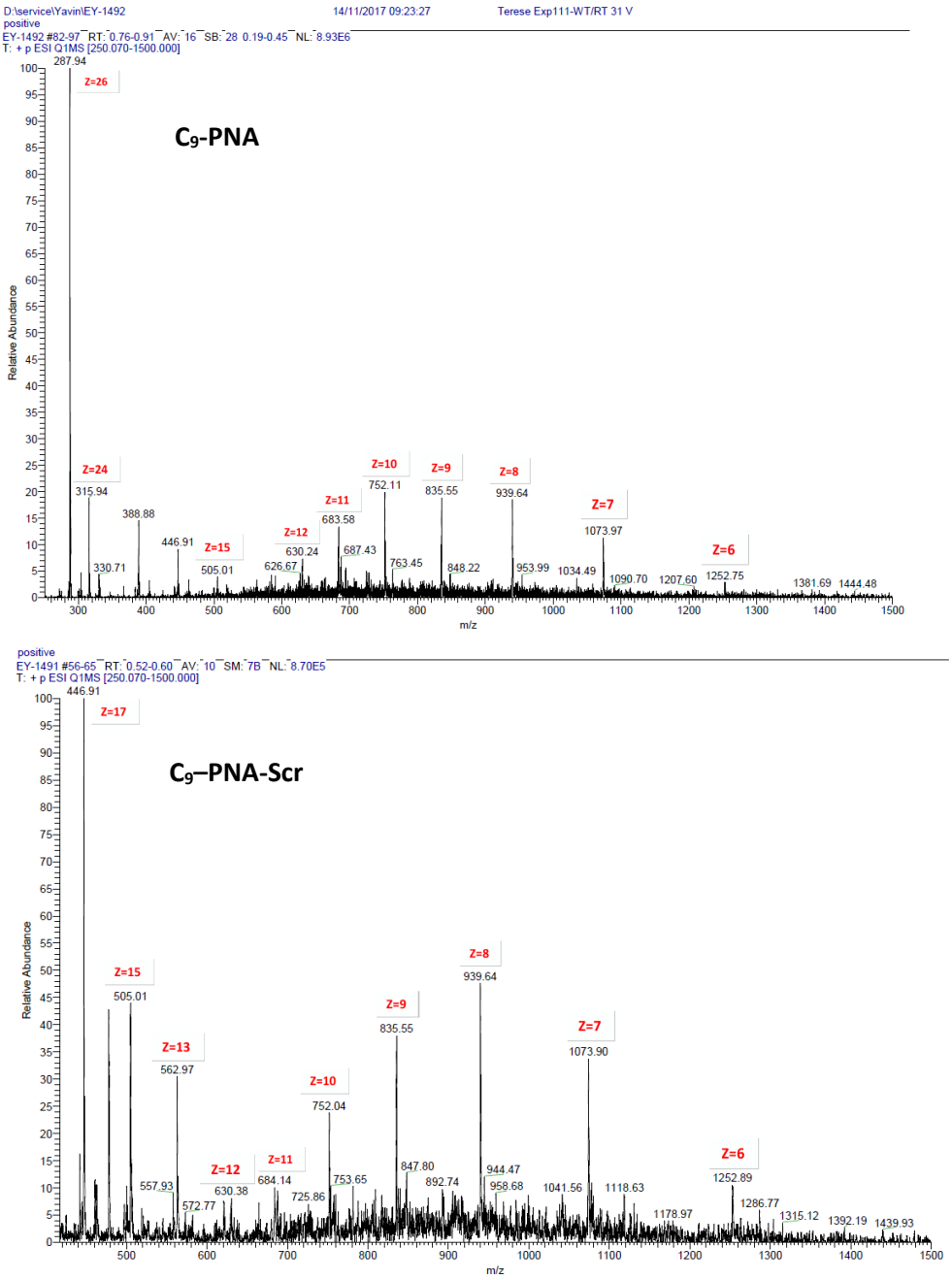


Figure S2. Mass spectra (ESI) of C_9-PNA and C_9-PNA-Scr.

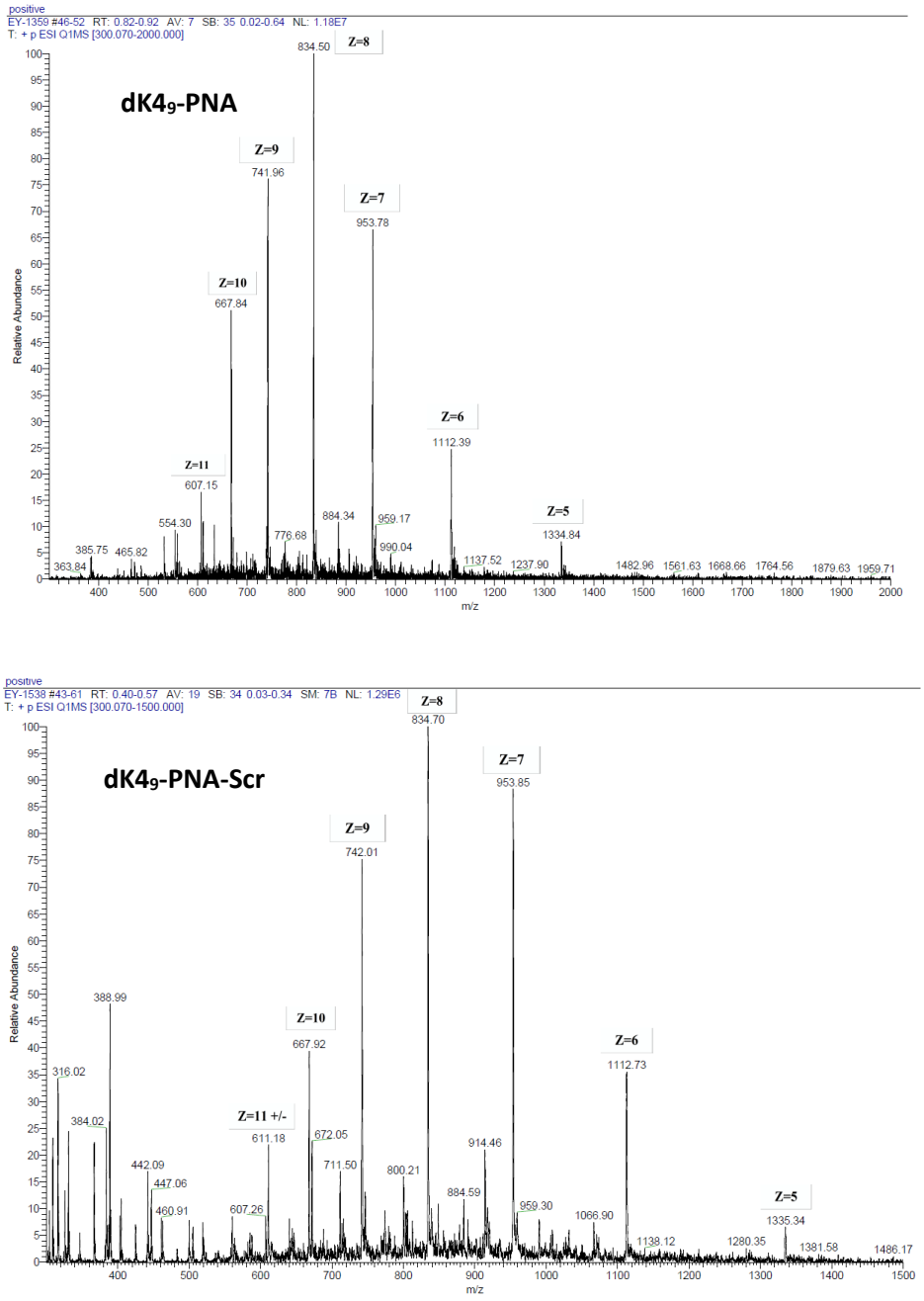


Figure S3. Mass spectra (ESI) of dK_4-PNA and dK_4-PNA-Scr.

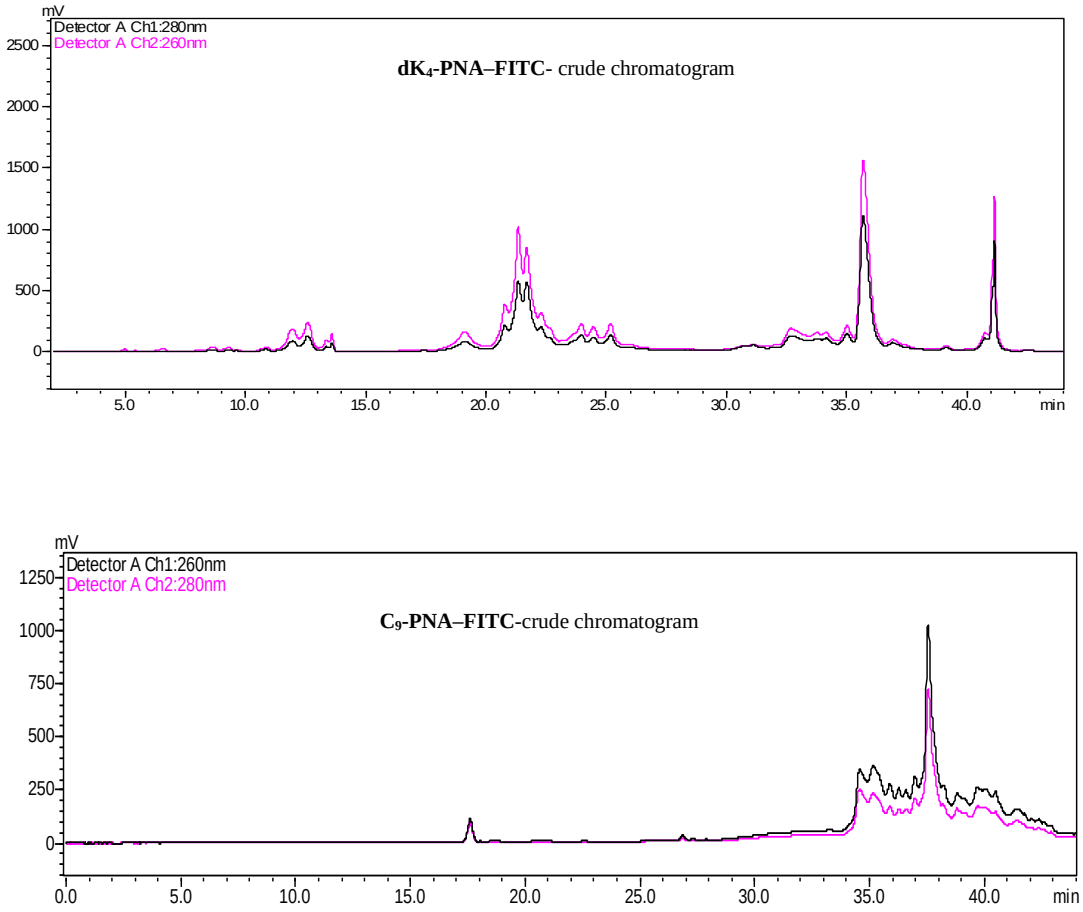
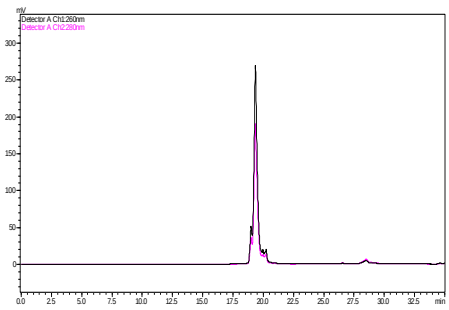


Figure S4. HPLC chromatograms of crude FITC-labeled PNA-peptide conjugates. Purity of FITC-labelled PNA-peptides were 22% for dK_4-PNA-FITC (R_t = 35.9') and 36% for C_9-PNA-FITC (R_t = 36.8') based on the ratio between the area under curve (AUC) of product peak divided to total AUC (at 260 nm).

RP-HPLC (Shimadzu LC2010), semi-preparative C18 reverse-phase column (Phenomenex, Jupiter 300 A) at a flow rate of 4 mL/min. Mobile phase: 0.1% TFA in H_2O (A) and acetonitrile (B).
Gradient: Initial −90% A, 10% B. 10 min − 80% A, 20% B. 30 min −10% A, 90% B. 30.01 min −10% A, 90% B. 37 min – 95% A, 5% B. 37.01 min– 95% A, 5% B. 40 min–stop, 44.01min.

dK$_4$-PNA–FITC



C$_9$-PNA–FITC

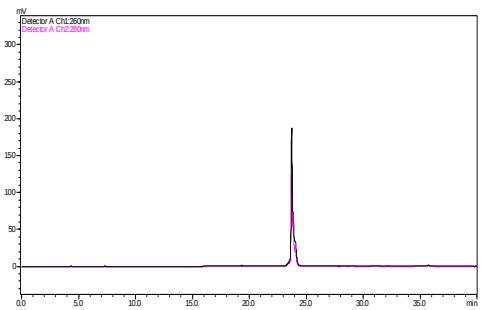


Figure S5. HPLC chromatograms of purified FITC-labeled PNA-peptide conjugates. Purity of FITC-labelled PNA-peptides: 91% for dK$_4$-PNA-FITC and 93% for C$_9$-PNA-FITC, respectively.

RP-HPLC (Shimadzu LC2010), semi-preparative C18 reverse-phase column (Phenomenex, Jupiter 300 A) at a flow rate of 4 mL/min. Mobile phase: 0.1% TFA in H_2O (A) and acetonitrile (B).
Gradient: Initial −90% A, 10% B. 10 min − 40% A, 60% B. 30 min −10% A, 90% B. 30.01 min −10% A, 90% B. 37 min – 95% A, 5% B. 37.01 min– 95% A, 5% B. 40 min–stop, 44.01min.

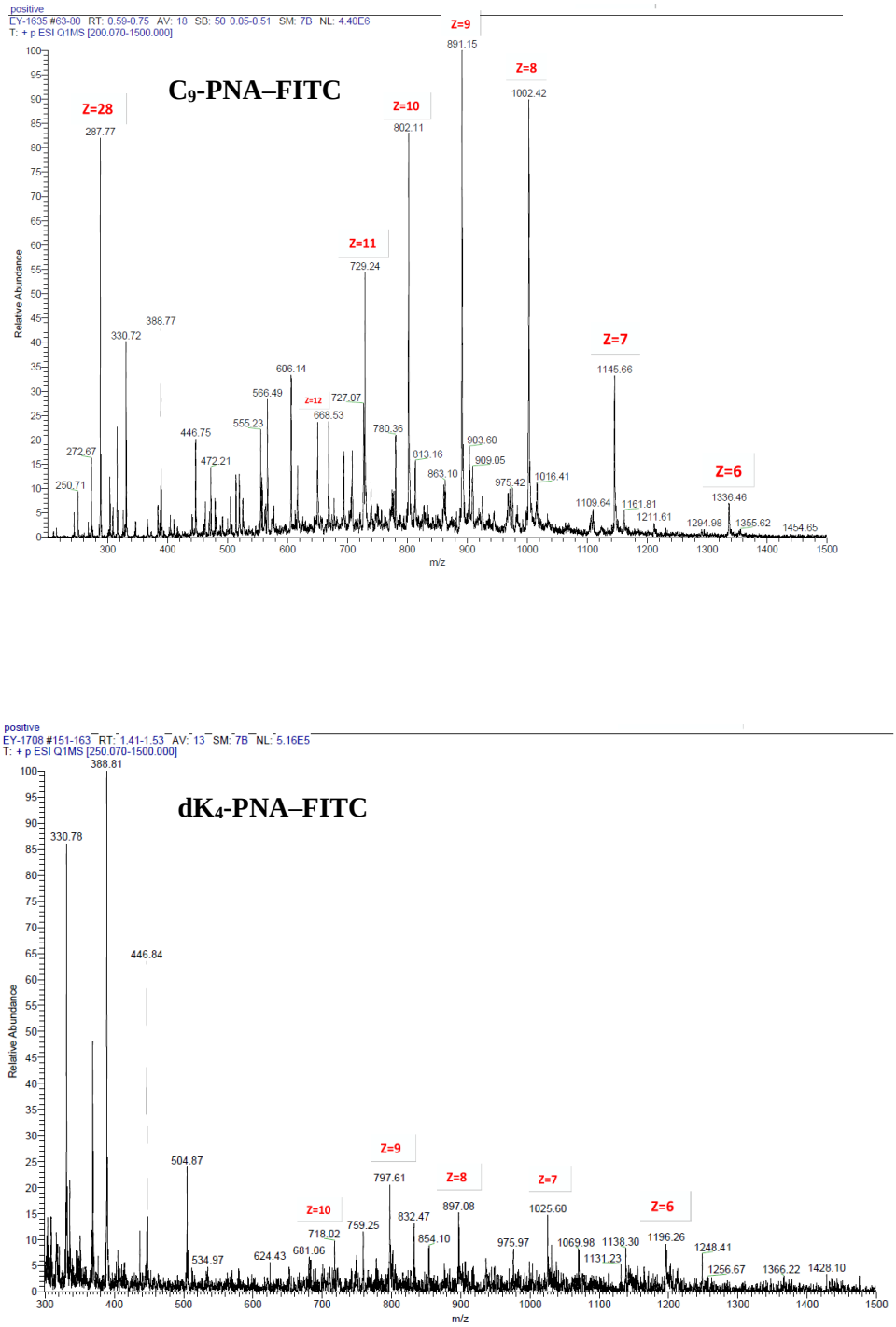


Figure S6. Mass spectra (ESI) of C_9-PNA-FITC and dK_4-PNA-FITC.

Primer sequences

Gene name	**Forward** **reverse**	**Sequence (5'–3')**
h UBC	For	ATTTGGGTCGCGGTTCTTG
	Rev	TGCCTTGACATTCTCGATGGT
miR-155-5p	TTAATGCTAAT**CG**TGATAGGGGT	

Table S1: primers used for RT-PCR presented in Figure 1.

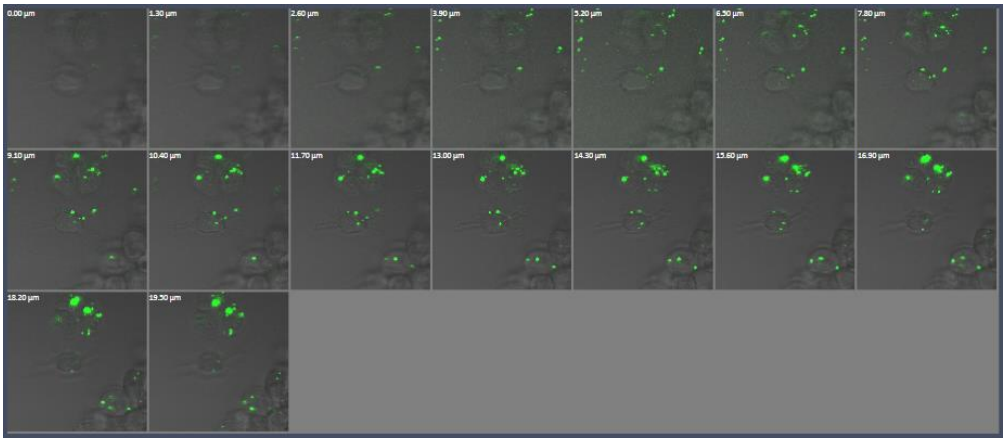


Figure S7. Cross section of a confocal image taken for C_9-PNA-FITC added to U87 cells (0.5 μM, 3 h). Sections are shown with increments of 1.3 microns ranging from 0 to 19.5 microns.

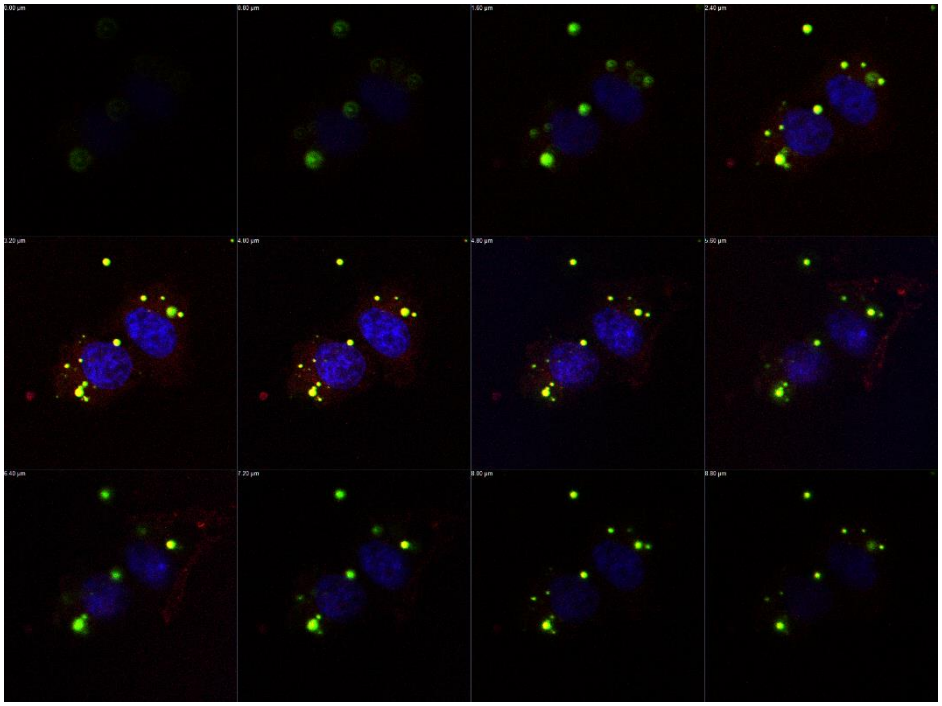


Figure S8. Cross section of a co-stained confocal image taken for C_9-PNA-FITC added to U87MG cells (0.5 μM, 3 h). Sections are shown with increments of 0.8 micron ranging from 0 to 8.8 microns.

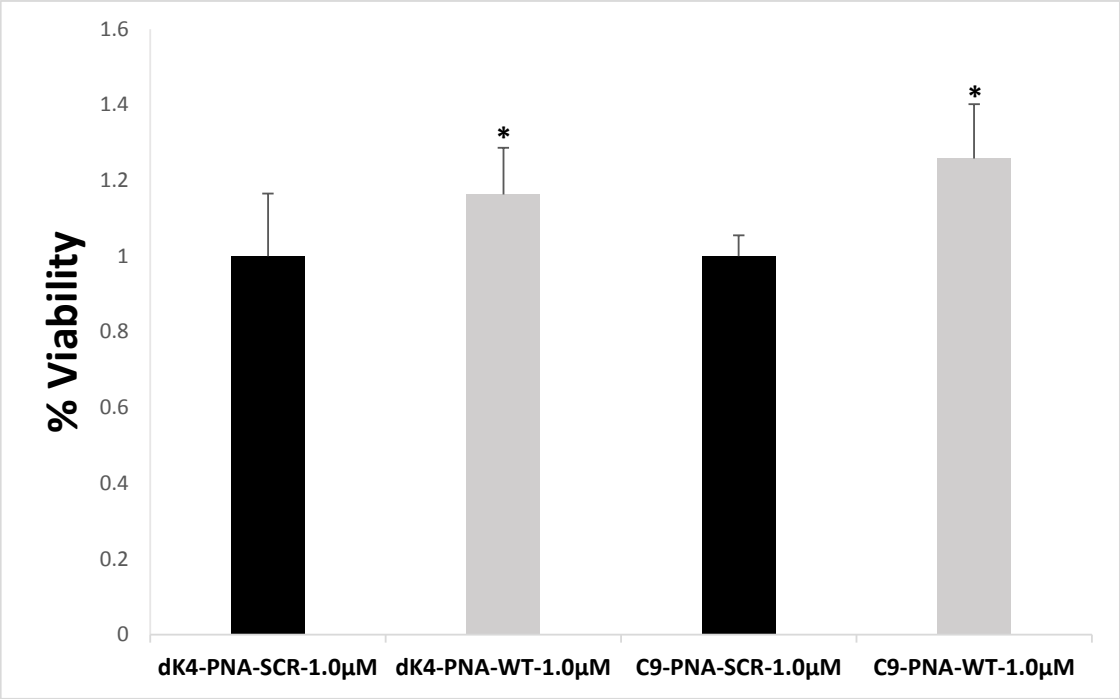


Figure S9. Cell viability for Nf08-uterus cells as determined by the XTT assay. Nf08-uterus cells were treated with 1 µM PNA conjugates for 72 hours at 37 ^{0}C (in triplicates in 96-well plates). Viability is shown in comparison to scrambled PNA controls. * *P-value<0.05.*