

## Supporting information

### PNA as potential modulator of *COL7A1* gene expression in dominant dystrophic epidermolysis bullosa: a physico-chemical study†

Jussara Amato,<sup>‡<sup>a</sup></sup> Marco Ignazio Stellato, <sup>‡<sup>b</sup></sup> Elio Pizzo,<sup>c</sup> Luigi Petraccone,<sup>b</sup> Giorgia Oliviero,<sup>a</sup> Nicola Borbone,<sup>a</sup> Gennaro Piccialli,<sup>a</sup> Angela Orecchia,<sup>d</sup> Barbara Bellei,<sup>e</sup> Daniele Castiglia,<sup>d</sup> and Concetta Giancola\*<sup>a</sup>

<sup>a</sup>Department of Pharmacy, University of Naples “Federico II”, via D. Montesano 49, 80131 Naples, Italy

<sup>b</sup>Department of Chemical Sciences, University of Naples “Federico II”, via Cintia, 80126 Naples, Italy

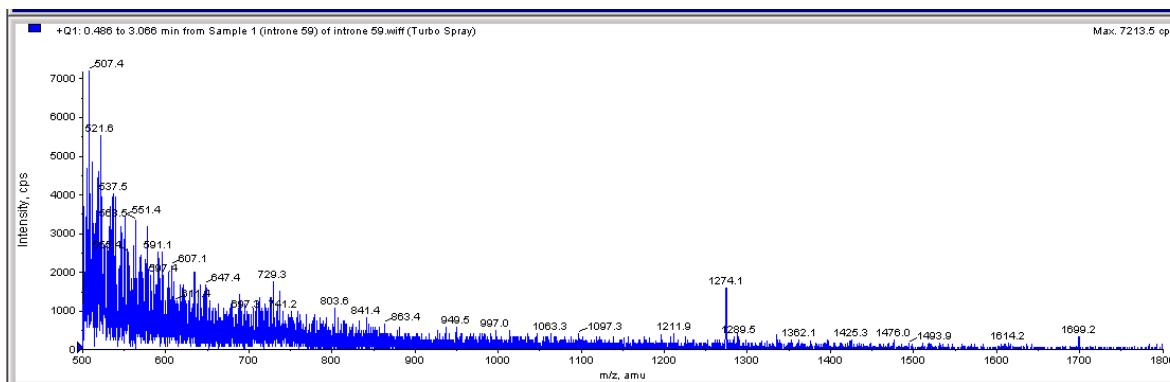
<sup>c</sup>Department of Biology, University of Naples “Federico II”, via Cintia, 80126 Naples, Italy

<sup>d</sup>Laboratory of Molecular and Cell Biology, Istituto Dermopatico dell’Immacolata, IRCCS, via dei Monti di Creta 104, 00167 Rome, Italy

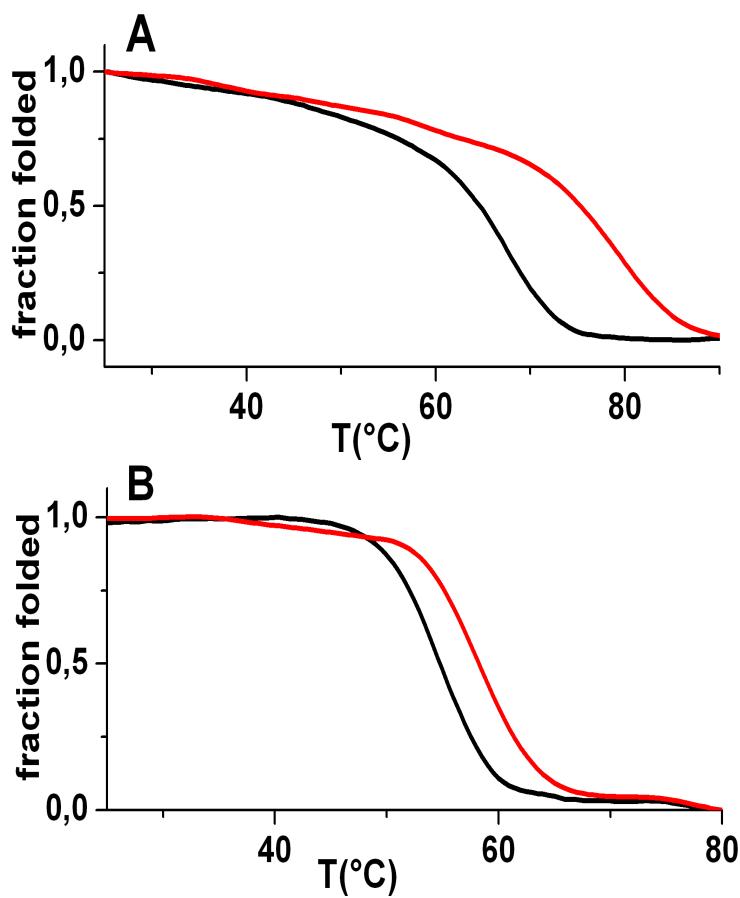
<sup>e</sup>Laboratory of Cutaneous Physiopathology, San Gallicano Dermatologic Institute, IRCCS, via Elio Chianesi 53, 00144 Rome, Italy

† Electronic supplementary information (ESI) available.

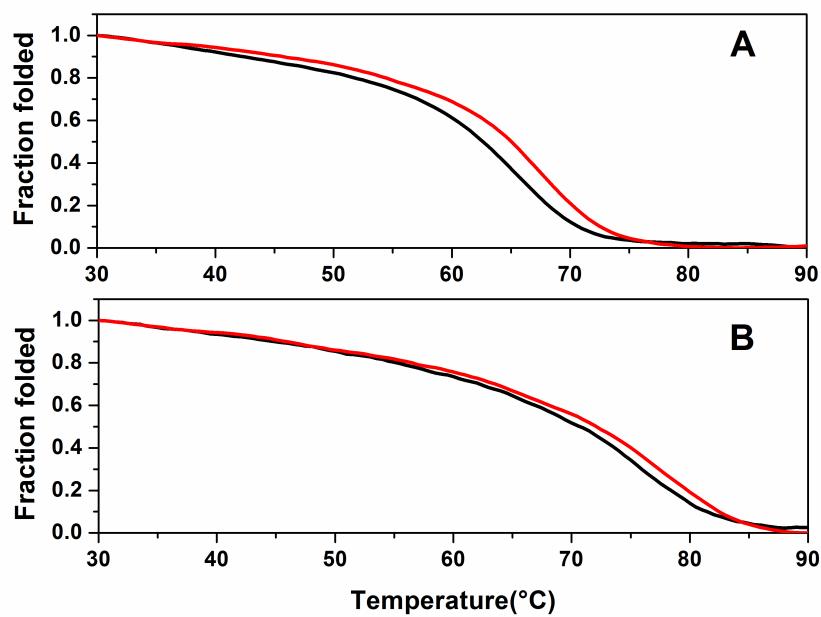
‡These authors contributed equally as first authors.



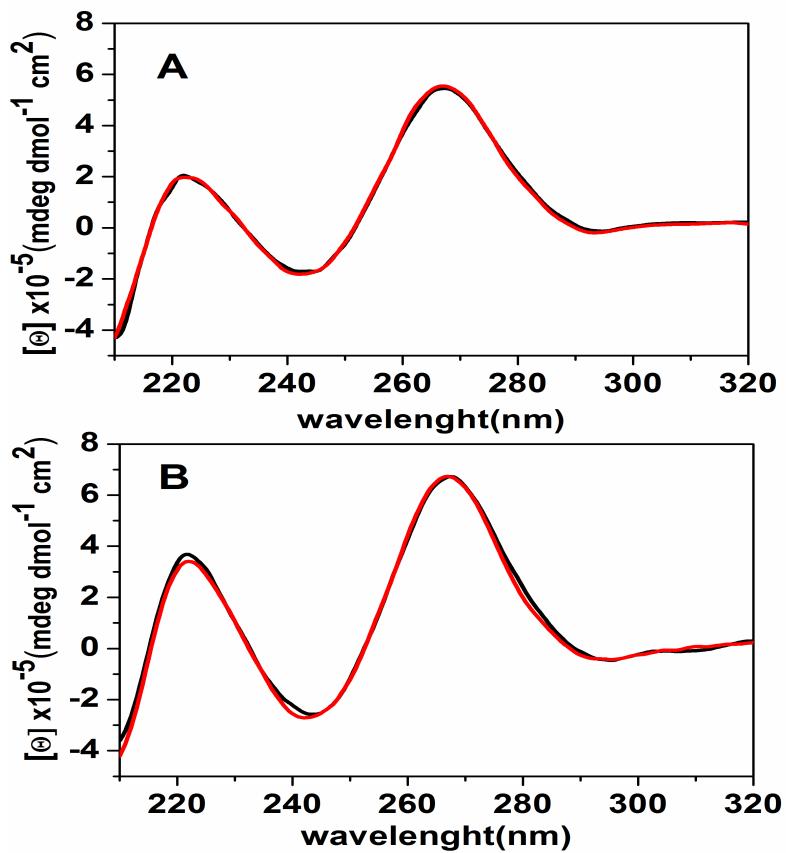
**Fig. S1.** ESI-MS spectrum of **FITC-PNA-K4**  $[(\text{C}_{213}\text{H}_{288}\text{N}_{90}\text{O}_{60}\text{S})^{4+}]$ , Exact Mass: 5098.2; Mol. Wt.: 5101.2;  $[\text{M}+3\text{H}]^{3+}$  1699.2 (calc. 1700.4),  $[\text{M}+4\text{H}]^{4+}$  1274.8 (calc. 1275.3)].



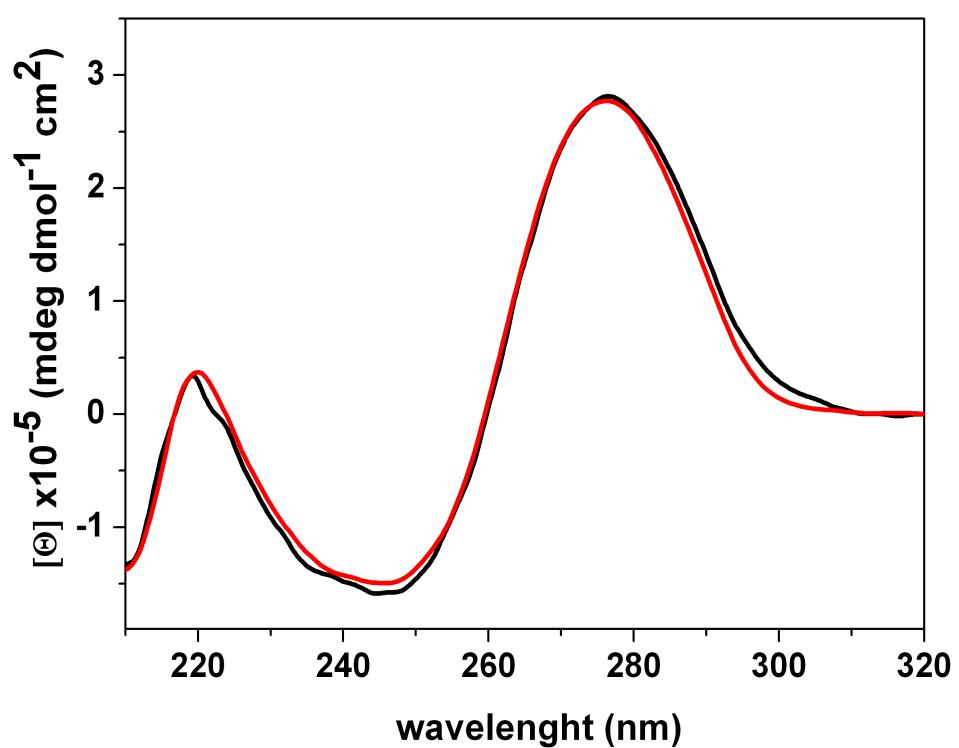
**Fig. S2.** A) CD melting profiles of **wt-heteroduplex** (black line) and **mut-heteroduplex** (red line). B) CD melting profiles of **wt-duplex** (black line) and **mut-duplex** (red line).



**Fig. S3.** A) CD profiles of melting (red line) and annealing (black line) of **wt-heteroduplex** and B) CD profiles of melting (red line) and annealing (black line) of **mut-heteroduplex**.



**Fig. S4.** A) CD spectra at 20°C before (red line) and after (black line) heating of **wt-heteroduplex**. B) CD spectra at 20°C before (red line) and after (black line) heating of **mut-heteroduplex**.



**Fig. S5.** CD spectra of **wt-sense** (black line) and **mut-sense** (red line) DNA strands.