Supplementary Material

Differential Impact of Triple Helix Dissociation Degree of Collagen on the Binding Efficiency of Cancer Cells and Normal Cells

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(1) Circular dichroism analysis of collagen samples

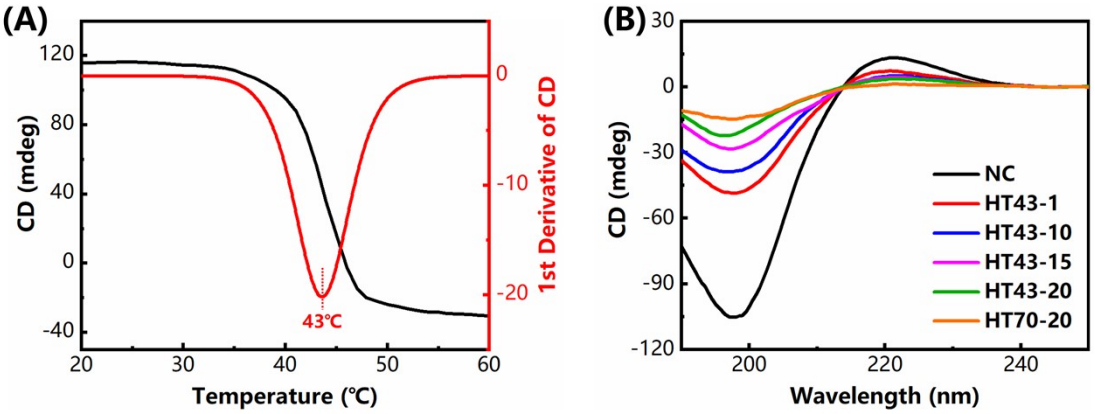

Figure S1. Circular dichroism thermal transition curve and derivative analysis of natural collagen (A), and circular dichroism spectra of collagen samples subjected to heat treatment under different conditions (B). NC represents natural collagen, and the samples after heat treatment are labeled as "HT" with corresponding temperature (℃) and treatment time (min) indicated.

(2) Analysis of the binding efficiency of collagen samples to MCF-7 and HUVEC through fluorescence labeling experiments

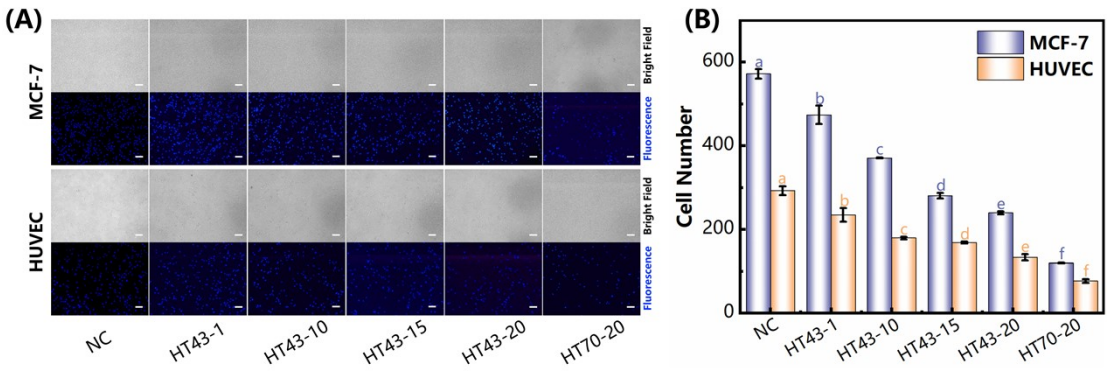

Figure S2. Fluorescence labeling images depicting the cell binding capacity of collagen with different triple helix dissociation degree. (A) Fluorescence labeling images, scale bar: 100 μm. (B) Quantitative results of fluorescence-labeled cells. Means that contain different letters are significantly different at $P<0.05$. NC represents natural collagen, and the samples after heat treatment are labeled as "HT" with corresponding temperature (°C) and treatment time (min) indicated.

(3) Analysis of the differential binding efficiency of collagen samples to MCF-7 and HUVEC through selective capture experiments in a co-culture system

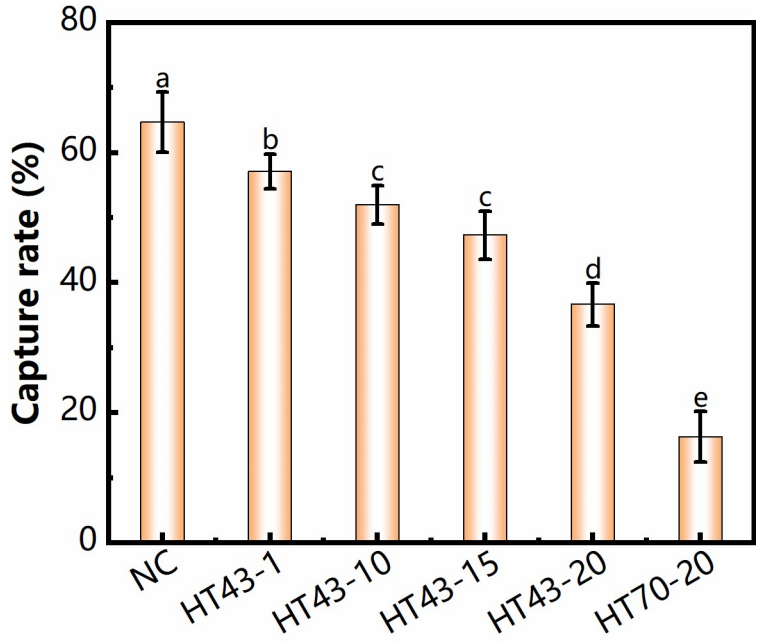

Figure S3. Selective capture rate of MCF-7 cells by different collagen samples in co-culture systems. Means that contain different letters are significantly different at $P<0.05$. NC represents natural collagen, and the samples after heat treatment are labeled as "HT" with corresponding temperature (℃) and treatment time (min) indicated.

(4) Analysis of the Effects of Collagen Samples on the Viability of MCF-7 and HUVEC Cells Using CCK-8 Assays

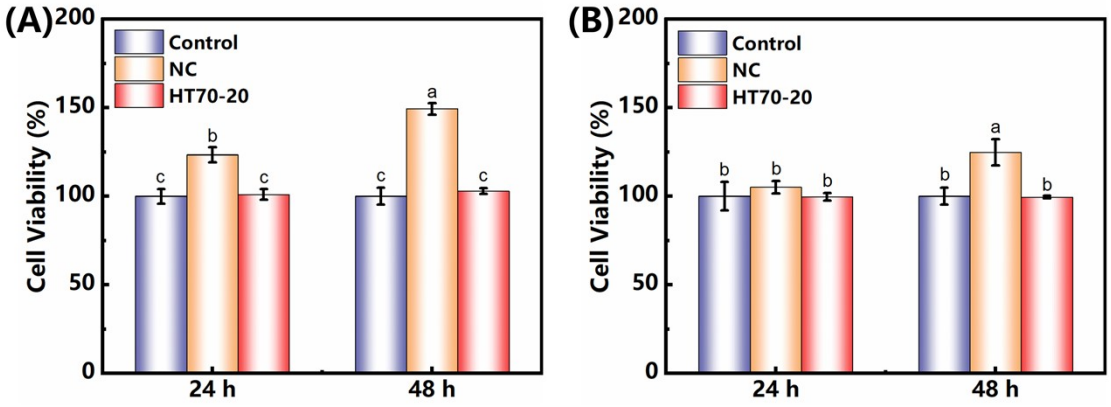

Figure S4. Differential effects of natural collagen (NC) and highly triple-helix dissociated collagen (HT70-20) on the viability of MCF-7 cells (A) and HUVEC cells (B).

(5) Evaluation of the Impact of Collagen Samples on the Migration Capabilities of MCF-7 and HUVEC Cells Through Scratch Assays

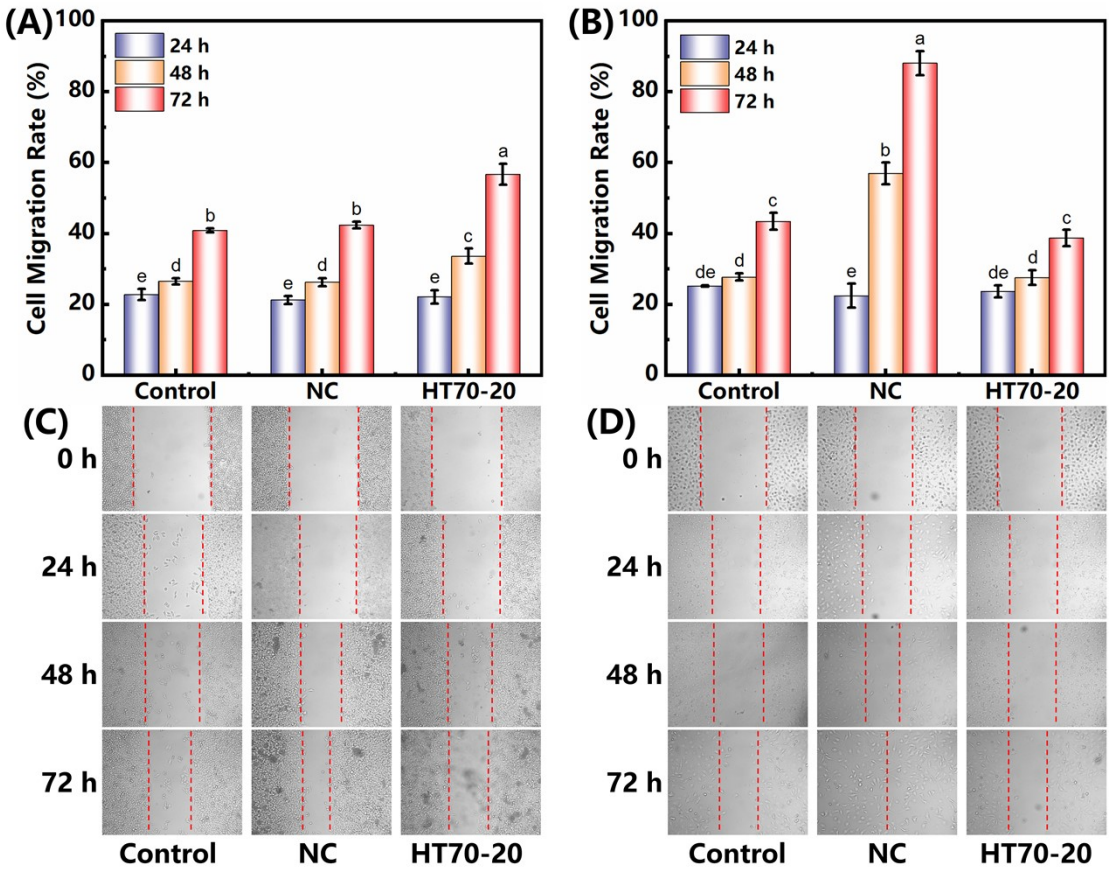

Figure S5. Differential effects of natural collagen (NC) and highly triple-helix dissociated collagen (HT70-20) on the migration capabilities of MCF-7 cells (A, C) and HUVEC cells (B, D). A, B present the analysis of cell migration rates based on scratch assays; C, D show images from the scratch assays.