Supporting information

Rosmarinc acid-loaded electrospun nanofibers: *in vitro* release kinetic study and bioactivity assessment

In vitro anti-inflammatory assay

Standard curves for inhibition of protein denaturation were plotted against the ascending concentrations of ibuprofen in acetone, RosA in acetone, and RosA in sodium acetate buffer solution and the respective regression line in linear range of concentrations were drawn, and IC_{50} values were calculated. To prevent over-saturation of anti-inflammatory molecules in reaction, the test solutions of nanofibers were prepared according to the calculated IC_{50} values. This assay was used to determine the overall inhibitory activity of nanofibers and the inhibitory activity of RosA released from nanofibers. For the former determination, test solution was prepared by dissolving about 5 mg of each nanofibrous sample in 3 mL of acetone. To determine the anti-inflammatory activity of RosA released from nanofibers, about 5 mg of each nanofibrous sample was submerged in 2 mL of sodium acetate buffer solution (pH 5.5), and placed in a shaking incubator at 37 °C and 50 rpm for either 4 h or 25 h. At predetermined time points, the nanofibrous sample was taken out from the buffer and buffer was used as the test solution.

Antioxidant activity assay

Standard curves for antioxidant activity were plotted against the ascending concentrations of RosA in acetone, and RosA in sodium acetate buffer solution and the respective regression line in linear range of concentrations were drawn, and IC_{50} values were calculated. To prevent over-saturation of antioxidant molecules in reaction, the test solutions of nanofibers were prepared according to the calculated IC_{50} values. This assay was used to determine the overall antioxidant activity of nanofibers and the antioxidant activity of RosA released from nanofibers. For the former determination, test solution was prepared by dissolving about 5 mg of each nanofibrous sample in 10 mL of acetone. To determine the antioxidant activity of RosA released from nanofibers, about 5 mg of each nanofibrous sample was submerged in 2 mL of sodium acetate buffer solution (pH 5.5), and placed in a shaking incubator at 37 °C and 50 rpm for either 4 h or 25 h. At predetermined time points, the nanofibrous sample was taken out from the buffer and buffer was used as the test solution.