Supplementary Material

Supplementary Figure Legends

Supplementary Figure 1. proMMP 1 expression is a combination of multiple upstream inputs.
Activation patterns of network intermediates **(A)** NF-κB, **(B)** Smad3, and **(C)** AP1. **(D)** proMMP 1
network node activity level **(E)** A simplified network model representation of the immediate
upstream reactions that regulate proMMP 1 expression.

Supplementary Figure 2. Coupled model produces stochastic results. Three representative
images of the collagen profile at 6 weeks for simulations with migration speeds of 1 grid/10 hrs **(A-
C),** 1 grid/hr **(D-E),** and 10 grids/hr **(G-I).**

Supplementary Video Legends

Supplementary Video 1. Tracking network state of individual fibroblast (from Fig. 8A). The
complete network state (91 nodes) at each time step (1 hour) for the individual fibroblast tracked in
Figure 8A and B.

Supplementary Video 2. Tracking network state of individual fibroblast (from Fig. 8C). The
complete network state (91 nodes) at each time step (1 hour) for the individual fibroblast tracked in
Figure 8C and D.

Supplementary Table Legends

Supplementary Table 1. Experimental and simulated data corresponding to Figure 10.