Supporting Table 1. Summary of model variables and parameters.

Symbol	Meaning	Estimate (†)	Ref.
R	Bead Radius		
h	Gel thickness		
h^*	Gel thickness at symmetry breaking		
v_p^0	Initial gel growth rate		
τ	Time of symmetry breaking		
$\langle\tau\rangle$	Average time of symmetry breaking		
h^s	Stress-limited steady-state thickness		
h^f	Critical fracture thickness		
λ	Dimensionless parameter h^s/h^f		
	$\lambda > 1$: case I		
	$\lambda < 1$: case II		
U^a	Activation energy for crack nucleation		
k_n	Crack nucleation rate		
l^*	Critical crack size		
$\Delta\widetilde{\mu}$	$kT \ln\ k_{\rm on}^b C_a/k_{\rm off}^p$		
σ	Tensile stress at outer surface		
Γ	Fracture energy per unit area		
a	Filament length gained per monomer	2.7 nm	1
$k_{\rm on}^b$	Barbed end assembly rate constant	12 μM^{-1}s^{-1}	2
$k_{\rm off}^p$	Pointed end disassembly rate constant	0.8 s^{-1}	2
C_a	Steady-state concentration of G-actin	0.6 μM	2
ξ	Mesh size of actin gel	50 nm	3
E	Elastic modulus of actin gel	10^3-10^4 Pa	4,5
l_c	Average distance between crosslinks	50 nm	3
ϵ_c	Average energy of a crosslink	10 kT	6
d	Size of pre-existing crack	0.1 μm	Estimated in this paper

(†) All parameters (except a) depend on the concentrations of the various regulating and crosslinking proteins. Indicated values denote orders of magnitude.

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