Electronic Supplementary Material

Cellulose

Pulmonary inflammation following intratracheal instillation of cellulose nanofibrils in rats: comparison with multi-walled carbon nanotubes

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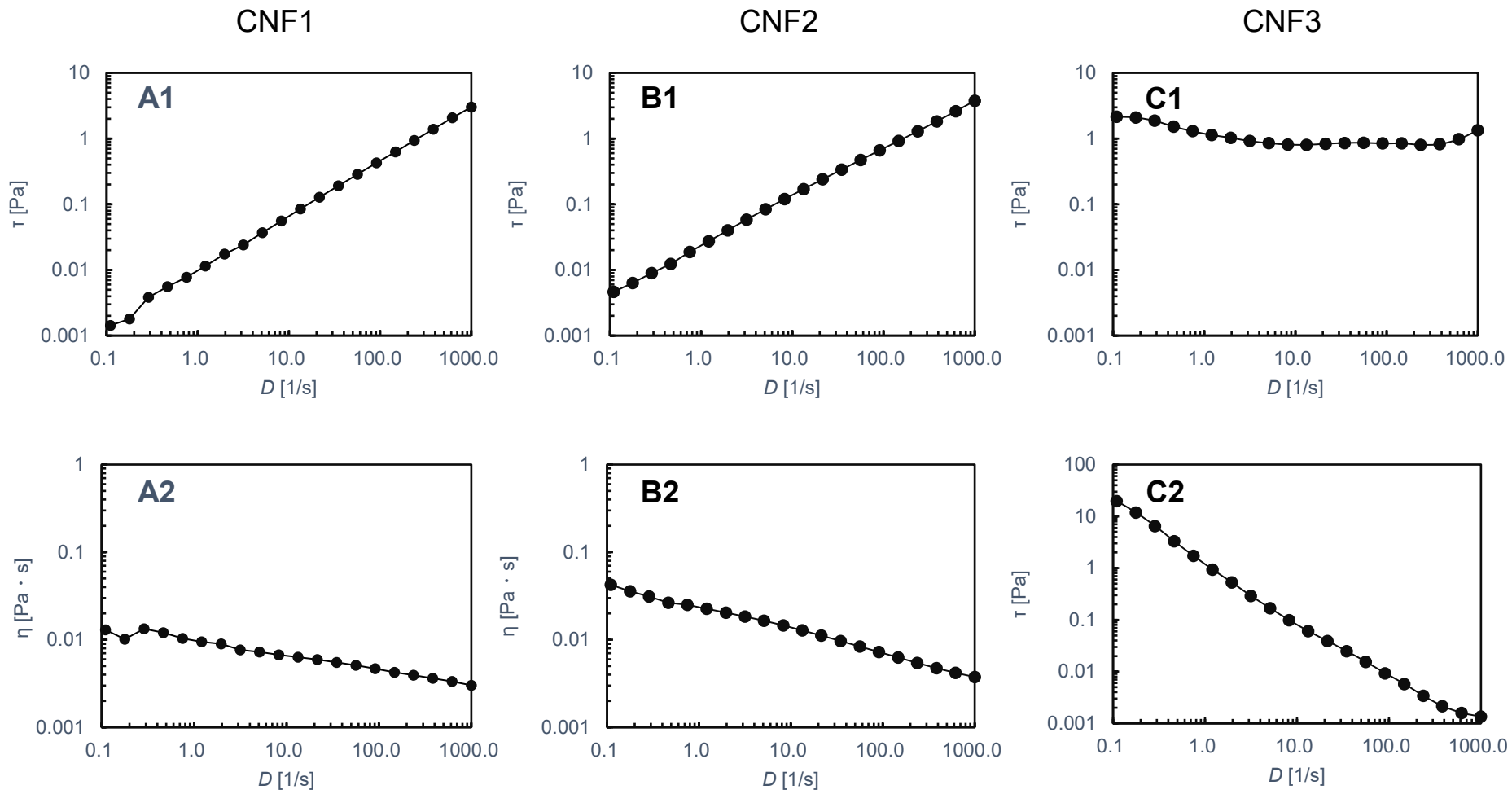
Table S1. Lung weight of rats after intratracheal instillation of CNFs or MWCNTs: vehicle control rats and rats treated with 0.5, 1.0, and 2.0 mg/kg CNF or MWCNT. Values are mean ± SD (g). $^{\#\#}p < 0.01$, Welch's *t*-test; $^{*}p < 0.05$, $^{**}p < 0.01$, Student's t-test vs vehicle control rats. CNF, cellulose nanofibril; MWCNT, multi-walled carbon nanotube.

Days post instillation		1	3	7	30	90
Number of rats		9	9	9	9	9
CNF1	Vehicle	1.42 ± 0.33	1.36 ± 0.25	1.49 ± 0.34	1.68 ± 0.35	1.82 ± 0.40
	0.5	1.66 ± 0.40	1.73 ± 0.30*	1.69 ± 0.39	1.62 ± 0.30	1.98 ± 0.41
	1.0	1.76 ± 0.30*	2.27 ± 0.67$^{\#\#}$	1.87 ± 0.30*	1.97 ± 0.35	2.07 ± 0.52
	2.0	1.95 ± 0.51*	2.64 ± 0.58$^{\#\#}$	2.34 ± 0.63**	2.46 ± 0.63**	2.18 ± 0.57
CNF2	Vehicle	1.46 ± 0.35	1.46 ± 0.34	1.52 ± 0.37	1.78 ± 0.59	1.93 ± 0.45
	0.5	1.8 ± 0.32*	2.01 ± 0.46*	1.98 ± 0.30**	1.89 ± 0.35	1.95 ± 0.42
	1.0	1.81 ± 0.43	1.94 ± 0.45*	1.98 ± 0.33*	1.87 ± 0.36	2.01 ± 0.35
	2.0	1.99 ± 0.47*	2.44 ± 0.50**	2.35 ± 0.46**	2.01 ± 0.33	2.30 ± 0.52
CNF3	Vehicle	1.34 ± 0.27	1.33 ± 0.34	1.38 ± 0.34	1.54 ± 0.31	1.81 ± 0.43
	0.5	1.60 ± 0.34	1.78 ± 0.43*	1.64 ± 0.40	1.64 ± 0.31	1.98 ± 0.42
	1.0	1.71 ± 0.43*	1.70 ± 0.42	1.85 ± 0.49*	1.92 ± 0.29*	2.04 ± 0.43
	2.0	1.95 ± 0.47**	1.90 ± 0.62*	2.03 ± 0.40**	2.03 ± 0.43*	2.05 ± 0.55
MWCNT	Vehicle	1.47 ± 0.29	1.45 ± 0.39	1.41 ± 0.31	1.68 ± 0.34	1.89 ± 0.43
	0.5	1.64 ± 0.28	1.53 ± 0.28	1.64 ± 0.40	1.78 ± 0.29	1.96 ± 0.52
	1.0	1.63 ± 0.32	1.75 ± 0.36	1.91 ± 0.41*	1.88 ± 0.37	2.09 ± 0.41
	2.0	1.86 ± 0.46*	1.86 ± 0.47	2.07 ± 0.53**	2.32 ± 0.45**	2.45 ± 0.46*

Table S2. Liver weight of rats after intratracheal instillation of CNFs or MWCNTs: vehicle control rats and animals treated with 0.5, 1.0, and 2.0 mg/kg CNF or MWCNT. Values are mean ± SD (g). $^{*}p < 0.05$, $^{**}p < 0.01$, Student's *t*-test vs vehicle control rats. CNF, cellulose nanofibril; MWCNT, multi-walled carbon nanotube.

Days post instillation		1	3	7	30	90
Number of rats		9	9	9	9	9
CNF1	Vehicle	12.62 ± 0.82	12.78 ± 1.08	13.76 ± 0.96	16.33 ± 1.20	19.40 ± 2.70
	0.5	12.73 ± 0.85	13.04 ± 1.17	14.30 ± 1.84	16.80 ± 1.97	21.94 ± 3.01
	1.0	11.31 ± 0.91**	12.65 ± 0.99	13.61 ± 0.34	16.78 ± 1.72	19.59 ± 2.51
	2.0	11.62 ± 1.15*	12.43 ± 1.46	12.90 ± 1.16	16.57 ± 2.58	19.61 ± 3.51
CNF2	Vehicle	12.68 ± 1.10	13.35 ± 1.63	13.83 ± 1.19	17.04 ± 2.26	19.41 ± 2.65
	0.5	12.20 ± 1.00	12.87 ± 1.44	13.97 ± 1.54	17.51 ± 1.85	18.94 ± 1.51
	1.0	11.89 ± 0.81	13.56 ± 0.90	13.20 ± 1.16	15.76 ± 1.77	19.13 ± 2.69
	2.0	11.89 ± 1.65	12.77 ± 1.18	13.99 ± 1.40	15.82 ± 1.22	19.58 ± 3.48
CNF3	Vehicle	11.59 ± 0.56	11.88 ± 0.58	12.42 ± 0.75	14.88 ± 2.18	17.39 ± 1.92
	0.5	11.11 ± 0.63	12.27 ± 0.72	12.76 ± 1.32	15.70 ± 1.83	18.71 ± 1.80
	1.0	10.83 ± 0.68*	11.74 ± 1.23	12.82 ± 1.21	16.62 ± 1.50	18.22 ± 1.81
	2.0	9.85 ± 1.15**	11.74 ± 1.13	12.59 ± 0.92	16.89 ± 1.26	16.99 ± 2.14
MWCNT	Vehicle	12.35 ± 0.64	13.05 ± 1.07	13.02 ± 0.98	16.64 ± 2.02	18.98 ± 2.17
	0.5	11.72 ± 0.62*	12.54 ± 1.11	13.35 ± 0.86	17.25 ± 1.82	18.57 ± 2.27
	1.0	11.81 ± 1.01	12.82 ± 0.81	13.69 ± 0.94	15.46 ± 1.14	19.95 ± 4.52
	2.0	11.10 ± 0.93**	12.90 ± 0.98	14.54 ± 1.67*	17.25 ± 1.73	18.77 ± 2.09



Supplementary Fig. S1
Rheological properties of CNFs dispersed in CNF1, CNF2, and CNF3 aqueous suspensions. Flow (A1, B1, and C1) and viscosity curves (A2, B2, and C2) for CNF1, CNF2, and CNF3 are presented. CNF, cellulose nanofibril.