Distribution of Sialic Acids on Mucins and Gels: A Defense Mechanism

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SUPPORTING MATERIAL

FIGURE LEGEND

S1. (A) A set of typical force curves, all at the same scale, showing single interaction peaks in the (inverted) force-extension domain. Only curves showing such a single interaction event were analysed.
(B) A number distribution of all analysed force curves showing the distribution of rupture distances, confirming the modal separation at a distance consistent with PEG-lectin dimensions.

S2. A comparison of 10,000 (A), 100,000 (B) and 1,000,000 (C) randomly-generated datasets of the same number of interaction events for an example acquired force-volume data set from an impression sample, showing that there is no improvement in resolution or precision in increasing the number of datasets beyond 10,000.

S3. Single energy barrier fit for the MAA- and SNA-functionalised tips, (a) and (b) respectively, showing the higher values of sum of least squares compared with two regime and Tees model fits.

S4. Force spectroscopy data on MAA (as contrasted with force volume data on the same system), performed over a lower loading rate regime, and yielding a lower dissociation constant of 0.17 $\pm$ 0.06 s^{-1}.

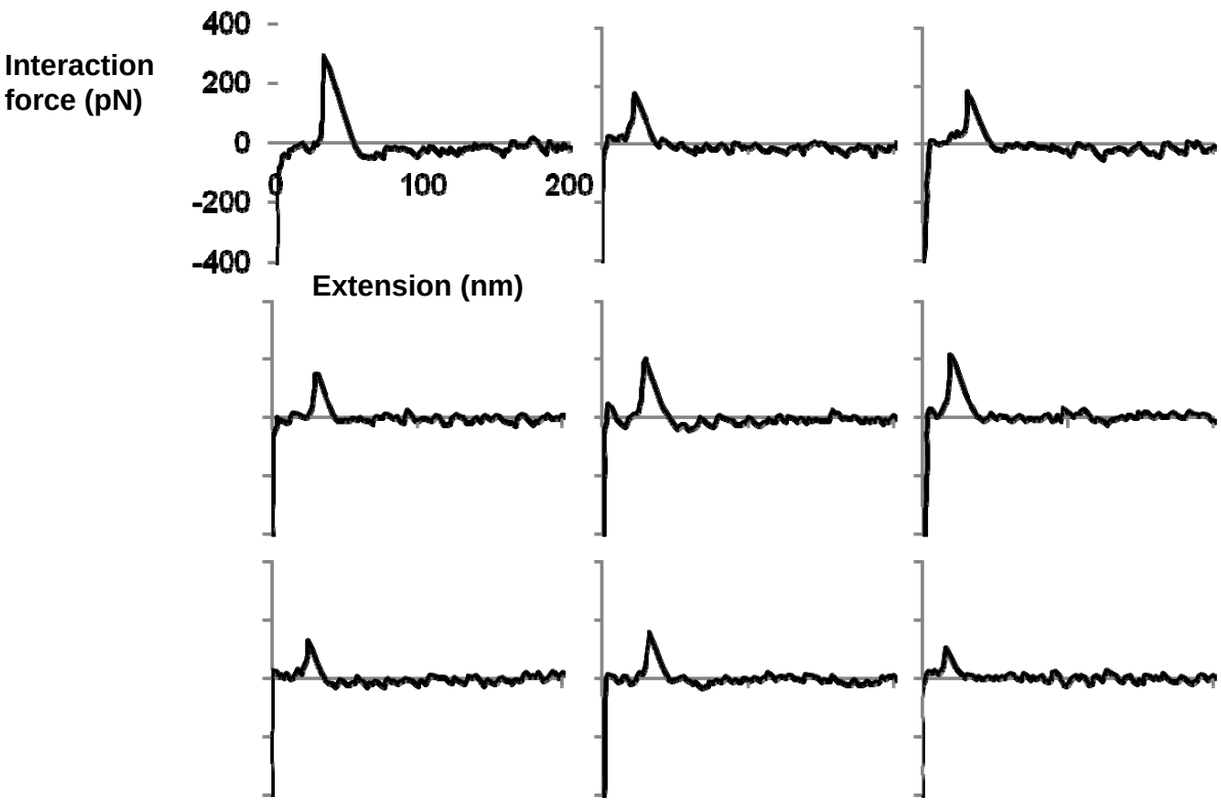

Figure S1 A

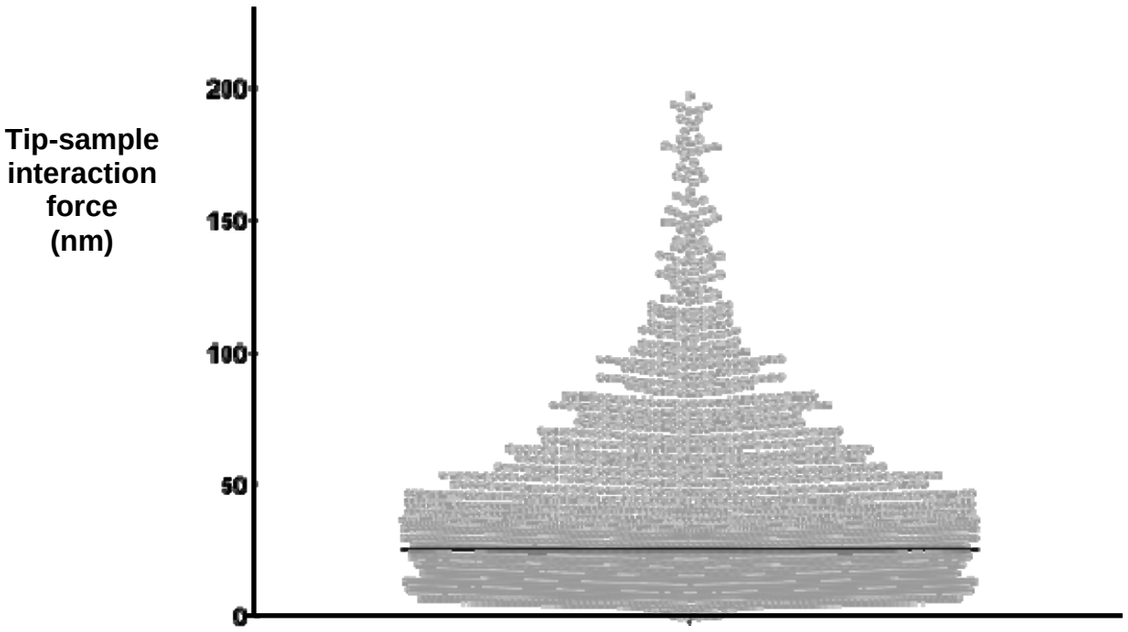

Figure S1 B

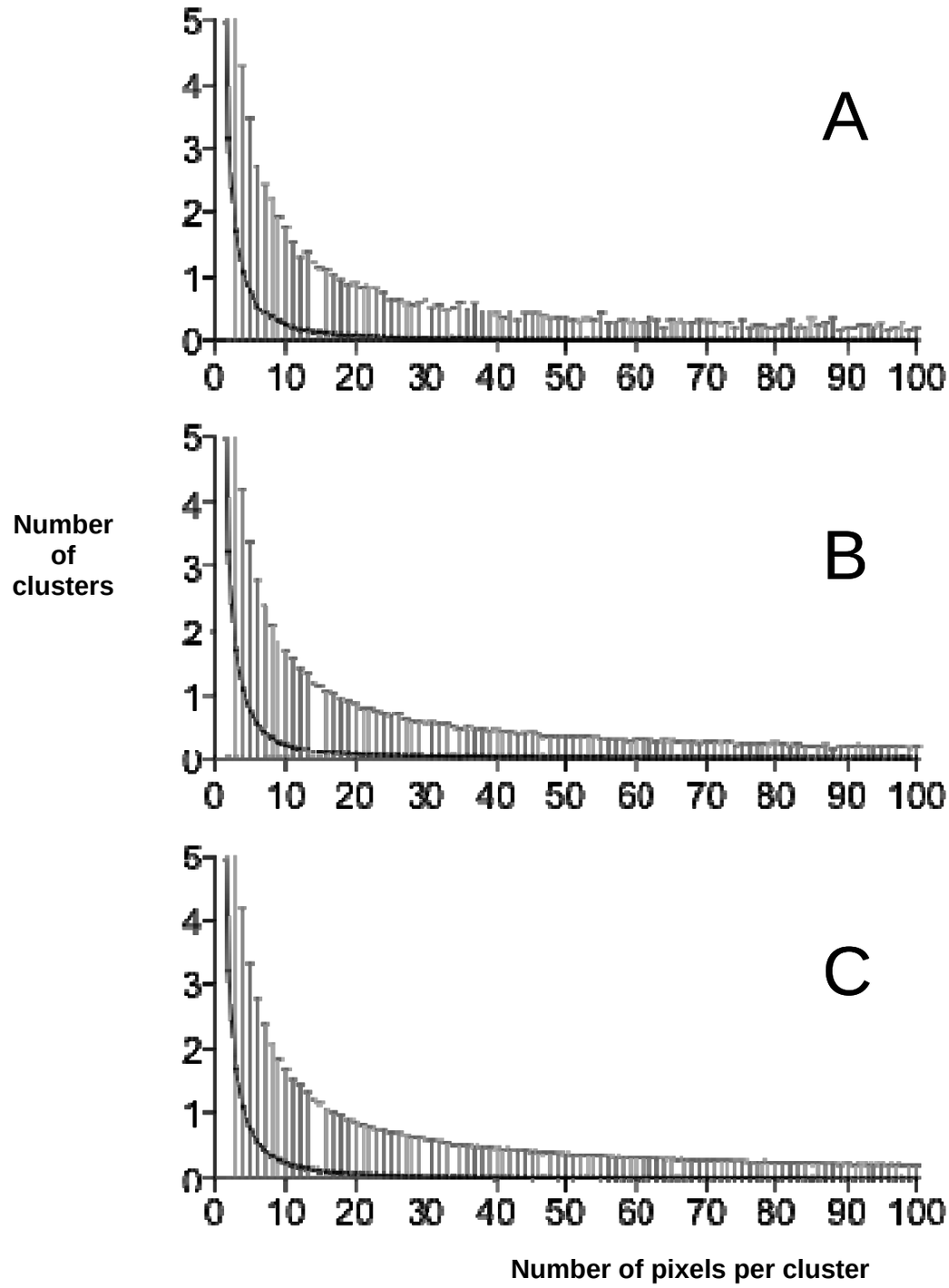
A
B
C
Number of clusters
0
1
2
3
4
5
0 10 20 30 40 50 60 70 80 90 100
Number of pixels per cluster

Figure S2

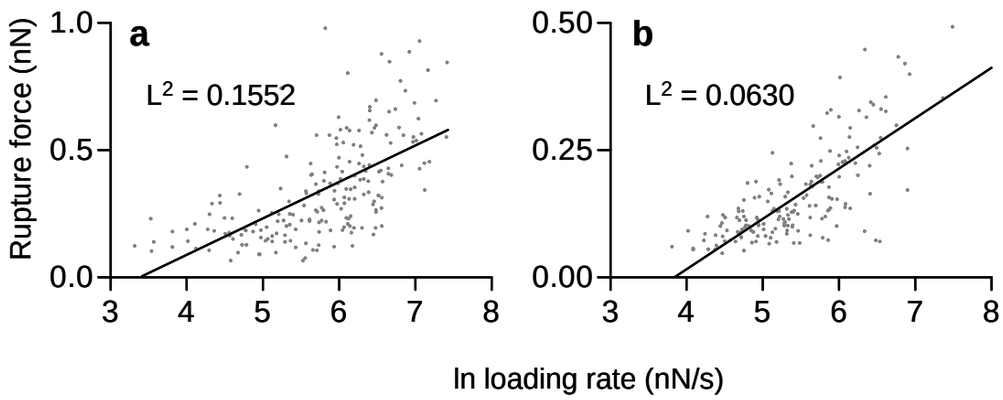
a
b
L2 = 0.1552
L2 = 0.0630
Rupture force (nN)
ln loading rate (nN/s)
1.0
0.5
0.0
0.50
0.25
0.00
3
4
5
6
7
8

Figure S3

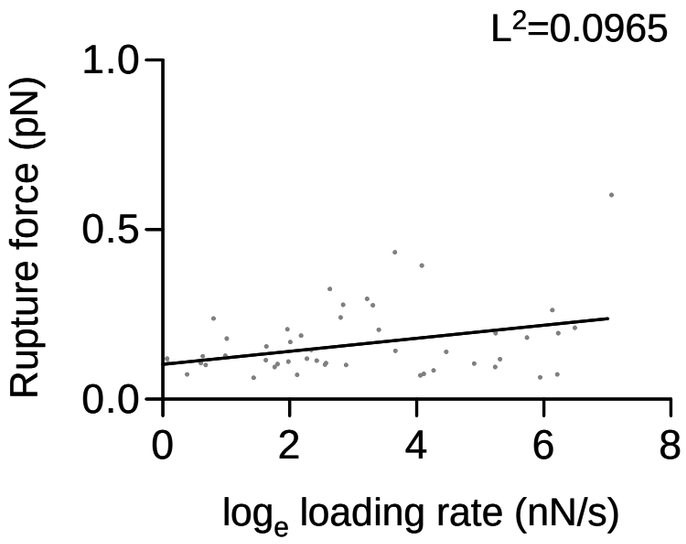
L2=0.0965
1.0
0.5
0.0
Rupture force (pN)
0
2
4
6
8
loge loading rate (nN/s)

Figure S4