



**Figure 3- figure supplement 1. 3+ event clusters are not spurious and a very rare in basal glucose conditions. Corresponds to Figure 3.**

A) Computationally simulated random secretion events in *in silico* cells using the mean area of the cells analyzed.

B-D) Representative images of output from Matlab script (see materials and methods) showing cell outlines (black lines) and secretion events (dots). Black dots are non-clustered secretion events, colored dots are clustered secretion events, each different color denotes a different cluster. Clusters were defined as 3+ secretion events occurring within 9 pixels (1.44  $\mu\text{m}$ ) by density-based scanning. Islets were pre-treated with DMSO (control, B), nocodazole (C) or taxol (D) and were incubated in 2.8  $\mu\text{M}$  glucose.