

Supplementary Movies 1–4

KG1a cells were incubated for 1 h at 4 (Movies 1 and 2) or 37 °C (Movies 3 and 4) with 2 μ M L-R8–Alexa Fluor[®] 488 (Movies 1 and 3) or D-R8–Alexa Fluor[®] 488 (Movies 2 and 4). Cells in Movies 1 and 2 were also labelled with the nuclear label DRAQ5 (shown in blue). Cells were washed and immediately visualised using confocal microscopy. Thirty stacks were obtained along the *z*-axis (400–500 nm/stack, 2–4 s/stack) and these are shown progressing from the bottom to the top of the cells.