**Description of Additional Supplementary Files**

File Name: Supplementary Movie 1

Description: FRAP of cingulin in WT cells.

File Name: Supplementary Movie 2

Description: FRAP of cingulin in γ-actin-KO cells.

File Name: Supplementary Movie 3

Description: FRAP of ZO-1 in WT cells.

File Name: Supplementary Movie 4

Description: FRAP of ZO-1 in γ-actin-KO cells.

File Name: Supplementary Movie 5

Description: FRAP of ZO-1 in γ-actin-KO cells treated with DMSO.

File Name: Supplementary Movie 6

Description: FRAP of ZO-1 in γ-actin-KO cells treated with blebbistatin.