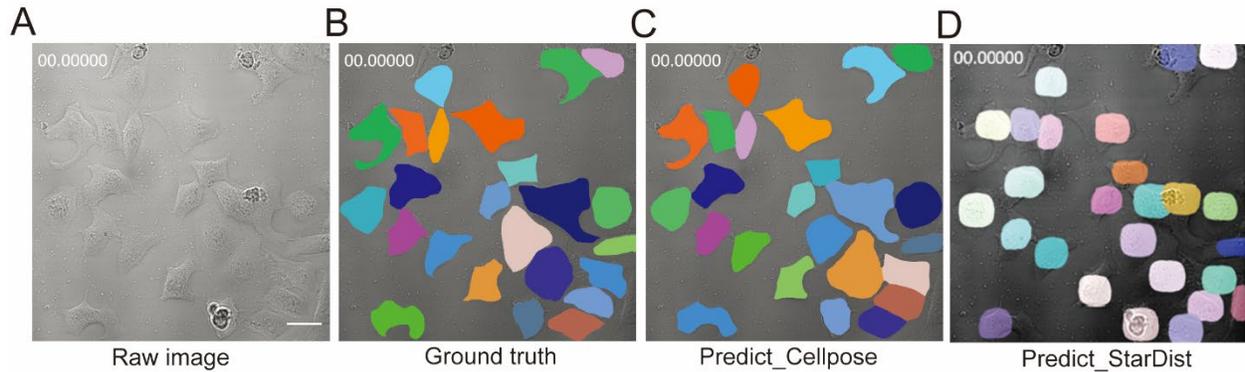


## Supplementary Information



**Figure S1.** The Cellpose and StarDist models are compared to a highly accurate reference dataset (ground truth) to assess their validation. **(A)** The raw cell image. Scale bar: 30  $\mu\text{m}$ . **(B)** The precise ground truth cell segmentation. **(C)** The Cellpose model's successfully segmented cells while maintaining their original morphologies. **(D)** The StarDist exhibited a propensity to predict primarily round shapes, even for cells with demonstrably different morphologies in the ground truth data.