**Supplemental Table 1**. 3D movie files of optical sections from image datasets of DAPI and A488 at Early-, Middle-, or Late-S phase maize root tip nuclei.

| S-phase substage | **Wavelength, filter sets** | **Fluorescent dye (molecules imaged)** | **Optical section colors** | **Movie or Source file** |
|---|---|---|---|---|
| EARLY (Fig 4A) | DAPI | DAPI (total DNA) | grey-scale | ZmRootBFA_EarlyS__DAPI |
| | FITC | Alexa-488 (EdU-labeled DNA) | grey-scale | ZmRootBFA_EarlyS__FITC |
| | DF, DAPI & FITC | DAPI (DNA) & Alexa-488 (EdU) | pseudo-color (mg = magenta & green; rg = red & green) | ZmRootBFA_EarlyS_DFmg<br>ZmRootBFA_EarlyS_DFrg |
| | DAPI & FITC | DAPI (DNA) & Alexa-488 (EdU) | DeltaVision 3D source file, (.dv) | ZmRootBFA_EarlyS_DF.dv |
| MIDDLE (Fig. 4B) | D, DAPI | DAPI (total DNA) | grey-scale | ZmRootBFA_MidS__DAPI |
| | F, FITC | Alexa-488 (EdU-labeled DNA) | grey-scale | ZmRootBFA_MidS__FITC |
| | DF, DAPI & FITC | DAPI (DNA) & Alexa-488 (EdU) | pseudo-color (mg = magenta & green; rg = red & green) | ZmRootBFA_MidS_DFrg<br>ZmRootBFA_MidS_DFmg |
| | DAPI & FITC | DAPI (DNA) & Alexa-488 (EdU) | DeltaVision 3D source file, (.dv) | ZmRootBFA_MidS_DF.dv |
| LATE (Fig. 4C) | D, DAPI | DAPI (total DNA) | grey-scale | ZmRootBFA_LateS__DAPI |
| | F, FITC | Alexa-488 (EdU-labeled DNA) | grey-scale | ZmRootBFA_LateS__FITC |
| | DF, DAPI & FITC | DAPI (DNA) & Alexa-488 (EdU) | pseudo-color (mg = magenta & green; rg = red & green) | ZmRootBFA_LateS_DFrg<br>ZmRootBFA_LateS_DFmg |
| | DAPI & FITC | DAPI (DNA) & Alexa-488 (EdU) | DeltaVision 3D source file, (.dv) | ZmRootBFA_LateS_DF.dv |

Table Notes:

Three different nuclei (Fig. 4A-C), displayed in various movie formats (see online supplemental materials), were from Meiocyte BufferA (MBA) plus formaldehyde-fixed 0-1 mm section of pulse-labeled maize seedling root tips. The 3D deconvolution datasets were cropped in 3 dimensions around each nucleus. Exported quicktime movies step through the optical Z-sections the nuclei, shown as grey-scaled or pseudo-color as listed in the table. The image wavelengths are designated “D” for the DAPI channel images (DAPI dye) showing total DNA/chromatin or “F” for the FITC channel images (Alexa-488 dye) showing locations of EdU incorporation into newly synthesized DNA incorporated during the EdU labeling pulse. Colored sections use either red or magenta for the DAPI image, and green for the FITC/A-488 image. Also included are links to the source DeltaVision datasets (.dv files). Scale bars are 1 micron.