Table S2. Algorithm addendum:

1. Average strength (nucleus) calculation formula:

\[
\text{mean}_{\text{intensity}}_{\text{nucleus}} = \frac{\sum_{k=1}^{N_{\text{nucleus}}} p_{i,k}}{N_{\text{nucleus}}}
\]

\(N_{\text{nucleus}}\): The number of pixels in the nucleus
\(p_{i,k}\): The pixel value of the KTH pixel in the nucleus

2. Average strength (cytoplasm) calculation formula:

\[
\text{mean}_{\text{intensity}}_{\text{cyto}} = \frac{\sum_{k=1}^{N_{\text{cyto}}} p_{i,k}}{N_{\text{cyto}}}
\]

\(N_{\text{cyto}}\): The number of pixels in the cytoplasm
\(p_{i,k}\): The pixel value of the KTH pixel in the cytoplasm

3. Formula for calculating cytoplasmic integrity:

\[
\text{completeness}_{\text{cyto}} = \frac{\sum_{k=1}^{N_{\text{cyto}}} I(p_{i,k} > 1 + \text{thresh})}{N_{\text{cyto}}} \times 100\%
\]

\(I(p_{i,k} > 1 + \text{thresh}) = \begin{cases} 1, & p_{i,k} > 1 + \text{thresh} \\ 0, & p_{i,k} \leq 1 + \text{thresh} \end{cases}\)

\(N_{\text{cyto}}\): The number of pixels in the cytoplasm
\(p_{i,k}\): The pixel value of the KTH pixel in the cytoplasm
1+ thresh: Cytoplasmic 1+ threshold value

4. Nuclear integrity calculation formula:

\[
\text{completeness}_{\text{nucleus}} = \frac{\sum_{k=1}^{N_{\text{nucleus}}} I(p_{i,k} > 1 + \text{thresh})}{N_{\text{nucleus}}} \times 100\%
\]

\(I(p_{i,k} > 1 + \text{thresh}) = \begin{cases} 1, & p_{i,k} > 1 + \text{thresh} \\ 0, & p_{i,k} \leq 1 + \text{thresh} \end{cases}\)

\(N_{\text{nucleus}}\): The number of pixels in the nucleus
\(p_{i,k}\): The pixel value of the KTH pixel in the nucleus
1+ thresh: Nuclear 1+ threshold value