**Supplemental Figures and Legends**

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**Supp. Figure 1**: Merged brightfield and fluorescent image of a live *Mnemiopsis* motile, stellate cell that has phagocytosed fluorescent *E. coli* (green). Nuclei are labeled with Hoechst (blue). Lysosomes are labeled with Lysotracker-redDND99 (red). Scale bar is 10 μm.

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Description automatically generated

**Supp. Figure 2**: Merged brightfield and fluorescent images of video stills of a live *Mnemiopsis* motile, stellate cell undergoing ETosis following exposure to the K+ ionophore nigericin. Time stamps denote how long the expulsion of nuclear material occurs. Nuclei are labeled with Hoechst (blue).

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**Supp. Figure 3**: Confocal image of a *C. gigas* hemocyte that has undergone ETosis in response to exposure to Tx-red-*E. coli.* Individual bacteria are entangled in the expelled nuclear material. Scale bar is 5 μm.

A screenshot of a computer

Description automatically generated with medium confidence

**Supp. Figure 4**: Confocal image of phagocytic *C. gigas* hemocytes that have engulfed Tx-red-labeled *E. coli.* Hemocyte cell membranes are labeled with WGA (green). Nuclei are labeled with Hoechst (blue). Scale bar is 5 μm.