



Fig. S1. Schematic representation that shows behaviors of protoplasm and microtubule during lenticular cell formation in *Valonia fastigiata*. The rows A, B, C, and D indicate developmental stages (I–VI), surface views of a cell, cross-sectional views of a cell, and arrangement patterns of microtubules, respectively. Stage I is a vegetative state before lenticular cell formation, where protoplasm is distributed homogeneously with cortical microtubules arranged parallel. Lenticular cell formation consists of two steps. The first step includes stages II and III, where protoplasm aggregates within an indefinite disk area. The second step is septum formation, including stages IV–VI. In stage II, random microtubules and centripetal microtubules arranged in a circular ray pattern appeared in the central area and peripheries of the protoplasmic aggregation, respectively. In stage III, centripetal microtubules arranged in a circular ray pattern were disconnected into two portions to make a circular, narrow band of the plasma membrane without microtubules just before the plasma membrane furrow would initiate. In stage IV, the circular, narrow band of the plasma membrane began to invaginate to advance a cleavage furrow, followed by centripetal ingrowth of the septum. Brush-like microtubules consisting of many short microtubules appeared at the leading edges of the plasma membrane furrow. A center pore of the septum decreased in diameter in stage V to close to complete septum formation, concomitantly with the disappearance of brush-like microtubules in stage VI.