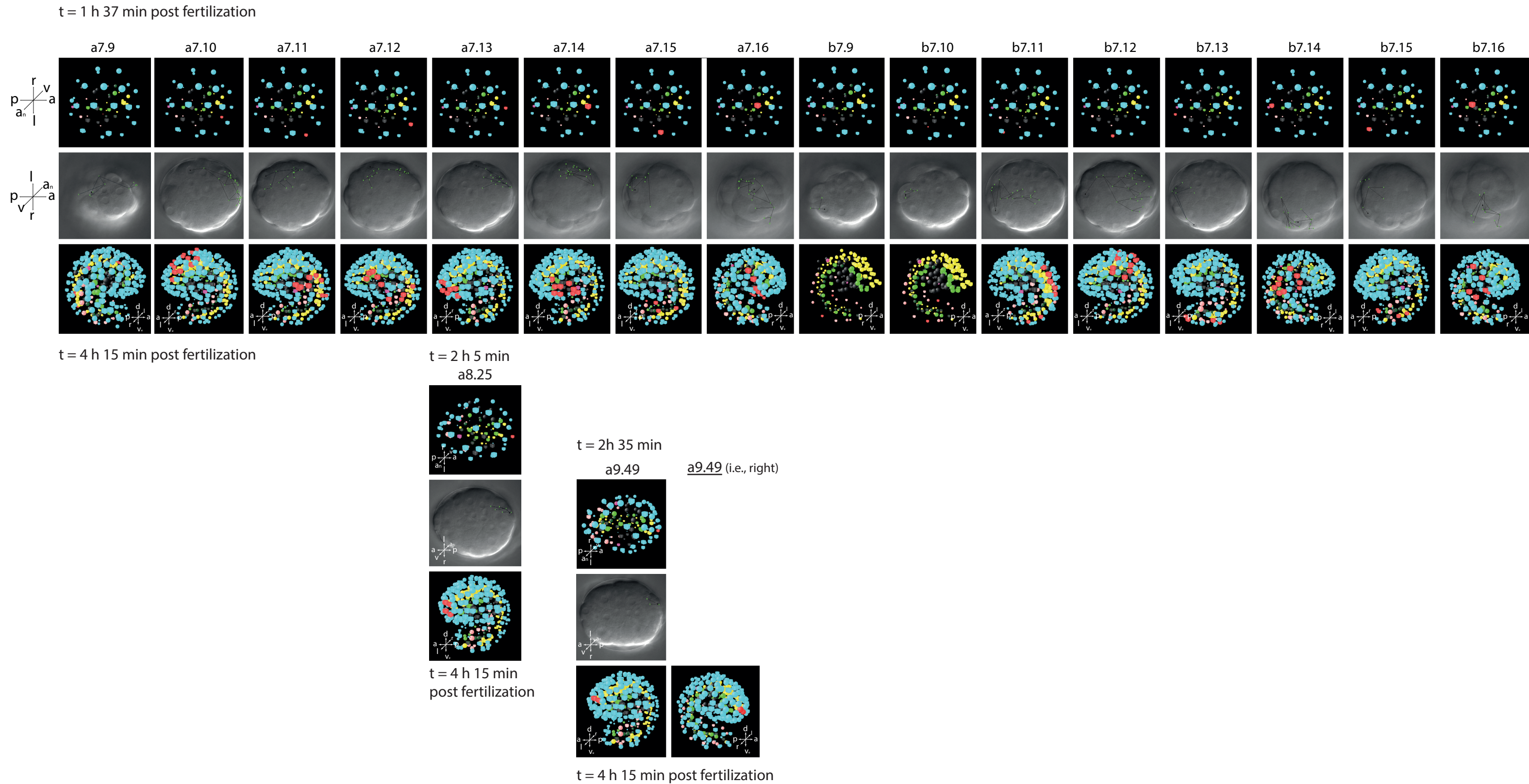




Supplementary Figure 4. *Oikopleura dioica*. Single cell analysis of cells from the animal side of the embryo at different times of development. Individual cells are marked red in the blastula stages (t = 1 h, 37 min after fertilization at 18° C) in the schematic 3D-representations in the top rows. Rows with Nomarski images show changes in cell position in consecutive generations documented in the 4D-analysis. Schematic 3D-representation in lower row shows descendants of individual cell in the respective column. a7.13-line is the potential neural crest cell line as hypothesized by Abitua et al. (2012). (some descendants might be missing). In all images the trunk of the embryo is oriented as depicted in the axis-orientation labels in the upper left of the figure, unless specified in the respective image. **a** – anterior, **an** – animal, **d** – dorsal, **l** – left, **p** – posterior, **r** – right, **v** – vegetal, **ve** – ventral. A higher resolution version of this figure is hosted on MorphDBase at: www.morphdbase.de/?T_Stach_20151119-M-61.1