



Laser Systems for Cell and Developmental Biology Research



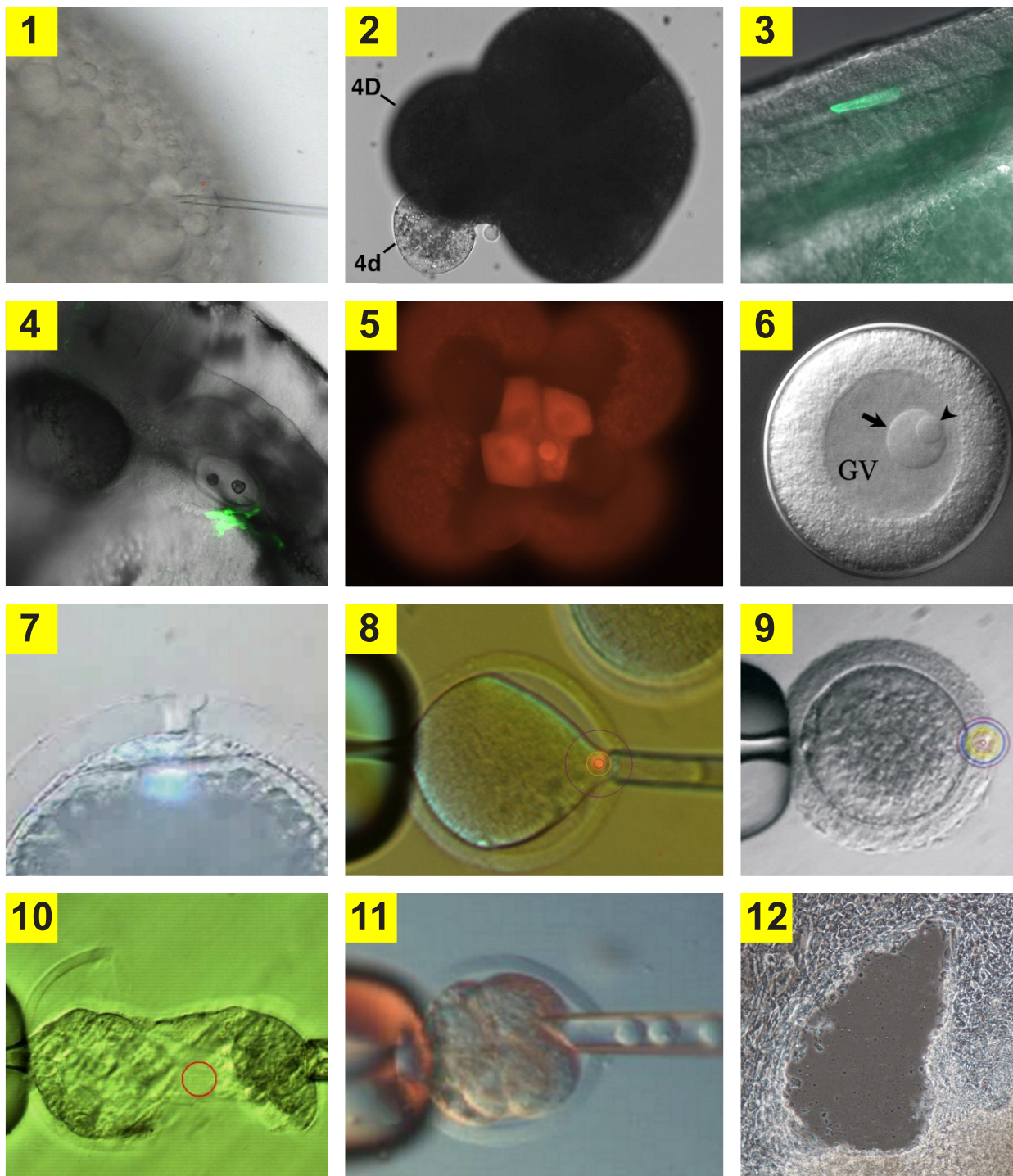
XYClone[®] LYKOS[™] Stiletto[™]

Selective ablation of cells or organelles *in vitro* & *in vivo*

Heat induced gene expression

Cell culture maintenance and passaging

Genetic engineering of animal models



Cell and Developmental Biology Research

1. XYClone Staccato laser facilitates insertion of injection pipet through zebrafish chorion without going through micropyle (Jose Cibelli, Michigan State University)
2. Death of the 4d mesentoblast cell following laser ablation of *Crepidula fornicata* (slipper snail) embryo using XYClone Staccato (Jon Henry, University of Illinois)
3. Heat-induced gene activation of trunk muscles in zebrafish embryo using XYClone Staccato (Embryology Workshop, The Marine Biological Laboratory)
4. Heat-induced gene activation of zebrafish embryo craniofacial skeleton using XYClone Staccato at 24 hpf, imaged at 36 hpf (Gage Crump, Broad CIRM Center)
5. Laser ablation of daughter cell (micromere) of *Crepidula fornicata* (slipper snail) embryo using XYClone Staccato (Jon Henry, University of Illinois)
6. DIC image of the nucleolus (small arrowhead) within an unactivated *Spisula solidissima* (surf clam) oocyte. Laser ablation of the nucleolus using XYClone Staccato results in failed meiotic cell division (Mark Allegro, The Marine Biological Laboratory)
7. Laser-assisted enucleation of porcine oocyte using XYClone (Nguyen Van Thuan, Konkuk University, Seoul, Korea)
8. Laser-assisted enucleation of mouse oocyte using XYClone RED-i (John F. Engelhardt, Xingshen Sun, Hongshu Sui, University of Iowa)
9. Laser-assisted isolation of MII spindle–chromosomal complexes from *Rhesus macaque* oocytes using XYClone RED-i and Oosight imaging system (Shoukhrat Mitalipov, Masahito Tachibana, Michelle Sparman, Oregon Health and Science University)
- 10: Laser-assisted inner cell mass excision using XYClone laser (Hamilton Thorne)
11. Injection of embryonic stem cells into 8-cell mouse embryo using XYClone RED-i (J. Michael White, University of Washington School of Medicine)
12. Ablation of differentiated stem cells using Stiletto laser (Nikica Zaninovic, Qiansheng Zhan, Weill Cornell Medical College)