

**Our mission is** to leverage stem cell tech, genetic engineering and nanotechnology to regrow biologically redesigned limbs for the 30 million people around the world who live with limb loss due to disease or physical trauma.

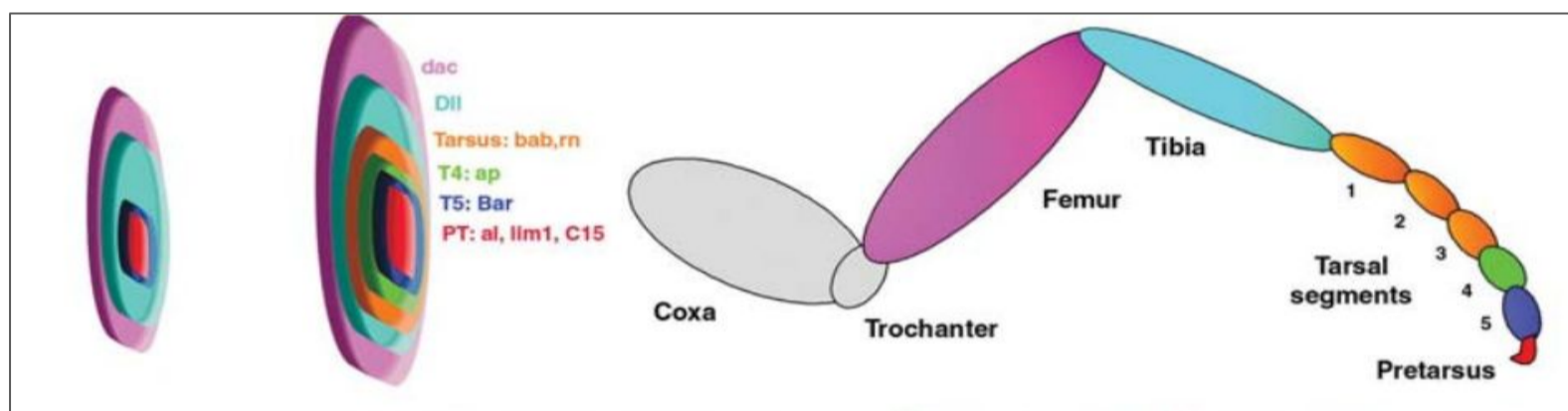
### EXPERIMENTAL DETAILS

**Hypothesis:** By transforming *Drosophila melanogaster* somatic cells into induced pluripotent stem cells for differentiation, an entire leg of *D. melanogaster* can be cultured in 1-7 days.

We'd organically culture a distal tip using *D. melanogaster* somatic cells, and insert the Hh developmental gene through a plasmid to stimulate leg development.

**Results:** *Drosophila melanogaster* are a reliable model for human physiological mechanisms - if the data shows that an entire *D. melanogaster* leg can be organically cultured using a few key genes, then there are grounds for a similar human limb regeneration process.

#### Anatomy of a Fruit Fly Leg + Genes Involved in Development



Credits: ([Bosch. Et al](#))

Coxa (*PRG4*), trochanter(*PRG4*), femur(*dac*), tibia (*DR*), tarsal segments (*bab, rn*) tarsus 4 (T4, *ap*), tarsus 5 (T5, *Bar*) and pretarsus (*al, lim, C15*). All cells will be checked to have the EGFR gene for growth regulation (specifically for *DR*)

#### Equipment Necessary + Budget (\$1804 Total)

Please view the attached spreadsheet to see an exact breakdown of the equipment necessary, why it's necessary and cost per piece of equipment!

**I'm looking for advice on how to create an at home biotech set up for preliminary results. If you are or know an entrepreneur, scientist, or investor in the space, I would appreciate an intro for 15 min call.**