7.18 Day 16 Agenda

• materials and methods
Materials & Methods

• Enough detail for interpretation or replication
  – Cite and provide context for previously published methods.
  – Detail new methods and modifications of previous methods: final volume, components in standard units, temperature, time.
  – Do not provide a protocol.

• Structure
  – In general, only one level of exposition, e.g. no sub-subheadings.
  – Describe methods in logical order, not the order in which you performed experiments.

• Reagents/equipment
  – Explain concepts of kits and other reagents, unfamiliar equipment.
  – Cite source, but city unnecessary.

• Language
  – Write in the past tense and passive voice.
  – Watch your grammar, e.g. “After scraping the desired plate in four swipes, the bacteria were placed in 8 ml of media with no antibodies.”

• Details: final volume, components in standard units, temperature, time.
• Kits: Avoid referencing, but if you must, then explain the concept of the kit.
Oocyte Transfers and Embryo Injections

Example Materials and Methods section from following article removed due to copyright reasons. Please see Amaya et al. *Cell*, 66 (July 26, 1991): 257-270.

• Sub-subheadings unnecessary.
2.1. Materials

2.2. Preparation of nanoparticles

Example Materials and Methods section from following article removed due to copyright reasons. Please see Win, & Feng. *Biomaterials* 26 (2005): 2713–2722.

- Materials should be incorporated.
- No need to mention city of company: there are catalogs.
- No need to mention water.
- Modified protocol mentioned, but not cited.
Southern blot analysis

Example Materials and Methods section from following article removed due to copyright reasons. Please see Ellis, et al. *Human Molecular Genetics* 14, no. 18 (2005): 2705–2715.

- No need to mention experimental variables in first sentence.
- Reference for genomic DNA prep, Church buffer?
- Washes in incomplete sentence; number not specified.
Electrophysiology

Example Materials and Methods section from following article removed due to copyright reasons. Please see Chatelain, et al. *Neuron* 47, no. 6 (2005): 833-843.

- Explain concept of kit.
- Note use of citation
- Can give range of variables.
Proteins and In Vitro Substrates

Example Materials and Methods section from following article removed due to copyright reasons. Please see Val, et al. Molecular Cell 19, no. 4 (2005):559-566.

• Unclear sentence in middle.
• pET vector not specified. Unclear antecedent in next sentence.
Next week’s assignments

Due Tuesday, 8 November:
  – Submit 2-page Methods & Materials
  – Group meetings

Due Thursday, 10 November:
  – Submit critique of selected student’s journal club article
  – Journal club