

Name: _____ EID: _____

Topic: Human Genome Editing (Week 14)

Pre-discussion questions. Answer briefly. Use only the space provided.

- 1) What gene did the researchers modify using CRISPR/Cas9 in Liang2015 (the research paper published in the journal *Protein & Cell* discussed in the required reading)? What is the name of the class of hereditary diseases that could theoretically be cured by editing this gene?
- 2) Why was there no chance of the embryos from Liang2015 developing into fully viable human fetuses that could have been born?
- 3) What is one way that CRISPR/Cas9 editing of an embryo's genome is fundamentally different from "gene therapy" as imagined and tested circa the year 2000?
- 4) How long (if ever) do you think that it will be before a human being is born whose genome has been edited using CRISPR/Cas9 or similar technology (Zinc-finger nucleases, TALENS, etc.)? If you were a governmental regulatory agency (for example, the FDA), what medical and/or non-medical uses would you approve genome editing for?