***Name: Kathryn Atherton\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

***Description****: Twice throughout the semester. Teams must meet during the lab prep on Mondays and present their products to each other. Afterwards, the team must choose which report from the group should be presented in front of the whole class. The presentation should include a Power Point Slide with information about the selected product or process. The team member who wrote the report will get extra credit points, and will need to present their report to the whole class. After all of the class presentations, everyone will vote which team had the best report. Extra credit points will be assigned to the winning team.* **Everyone must turn in a report during lab. Every group must select their favorite report to be presented in class on the above dates. As engineers (and people), it is important to think and analyze things on your own, plagiarism will be reported. Your sources must be included at the end of the report.**

This report must highlight a new bioproduct, bioprocess, food process, or food product. The key here is to choose something that has to do with bio/food-process engineering. A few examples will be presented before the reports are due.

**Topic:** Eli Lilly and Company’s Advanced Tissue Sarcoma Drug: Olaratumab

|  |
| --- |
| **Summary in your own words:**  Olaratumab is Eli Lilly and Company’s drug that has received a recommendation from the European Medicines Agency’s Committee for Medicinal Products for Human Use to allow the company to market the drug to be used with doxorubicin for treating adults with advanced soft tissue sarcoma in the European Union. The drug is currently in Phase 3 of studying; the estimated completion date is February 2019. The U.S. Food and Drug Administration is also currently reviewing the drug. |

|  |
| --- |
| **How is this new and innovative?:**  This is new and innovative because of the nature of sarcomas. They are a rare and complex type of cancer, with many different types. This makes the disease hard to diagnose and treat, and there have not been any new drugs for soft tissue sarcoma that have improved survival rates of patients. |

|  |
| --- |
| **Critical analysis (environmental impact, shortcomings, replacement of other products, market size):**  The treatment of olaratumab in combination with doxorubicin does increase the survival of soft tissue sarcoma patients by an average of 11.8 months, nearly double the survival time with just doxorubicin. However, extra months of survival with a disease is hardly an improvement in a patient’s experience, especially since the side effects of the drugs in combination, which include nausea, vomiting, diarrhea, and mucositis, were more frequent than the doxorubicin alone. Although the drug does improve a patient’s prognosis, it does not improve the quality of life of the patient during their extra time. |

|  |
| --- |
| **Additional comments:**  The drug works by binding to a growth factor receptor expressed in a tumor to block ligands from binding to the receptor and allowing for cancer metastasis. The drug is given intravenously. |

|  |
| --- |
| **Source(s):**  A Phase III Study of Doxorubicin with Olaratumab or Placebo in. (n.d.). Retrieved September 17, 2016, from https://www.mskcc.org/cancer-care/clinical-trials/15-271  A Study of Doxorubicin Plus Olaratumab (LY3012207) in Participants With Advanced or Metastatic Soft Tissue Sarcoma (ANNOUNCE). (2016, September 16). Retrieved September 17, 2016, from https://clinicaltrials.gov/ct2/show/NCT02451943?term=olaratumab  Eli Lilly and Company. (2016, September 16). CHMP Recommends Approval of Lilly's Olaratumab, in Combination with Doxorubicin, for Advanced Soft Tissue Sarcoma. Retrieved September 17, 2016, from http://www.prnewswire.com/news-releases/chmp-recommends-approval-of-lillys-olaratumab-in-combination-with-doxorubicin-for-advanced-soft-tissue-sarcoma-300329369.html  Lilly Oncology Pipeline | Lilly USA. (2016, April). Retrieved September 17, 2016, from http://www.lillyoncologypipeline.com/molecule/pdgfr-alpha-antibody/overview  Scheler, S., Degendorfer, H., Raneburger, J., Schwarz, F., & Ag, S. (2013, August 1). Patent WO2013110644A1 - Pharmaceutical composition containing crystalline sorafenib tosylate. Retrieved September 17, 2016, from https://www.google.com/patents/WO2013110644A1?cl=en  Tap, W. D., MD, Jones, R. L., MD, Van Tine, B. A., MD, Chmielowski, B., MD, Elias, A. D., MD, Adkins, D., MD, . . . Schwartz, G. K., MD. (2016, July 30). Olaratumab and doxorubicin versus doxorubicin alone for treatment of soft-tissue sarcoma: An open-label phase 1b and randomised phase 2 trial [Abstract]. *The Lancet,* *388*(10043), 488-497. http://dx.doi.org/10.1016/S0140-6736(16)30587-6 |