

iGEM Meeting 5.28.10

Discussion of topic ideas

- Incorporating chloroplasts into cells
 - o Low feasibility (sea slug may have to uptake thousands of genes from algae chloroplasts)
 - o Applicability (photosynthetic applications in heterotrophs, molecular cargo)
 - o Idea scrapped – inadequate means, overzealous
- Photorespiration
 - o Excess oxygen in C3, C4, CAM plants causes reversal of photosynthesis, requiring extra energy for plants, diminishes growth rate
 - o Goal : oxygen sequestration through use of Arabidopsis hemoglobin, manipulation of RuBisCO for potential yield increase
 - o Develop plant BioBrick parts for the registry
 - o Potential tie in to cancer ?
- Cancer / Metabolism Discussion
 - o Last year's project: using microglial cells to target glioblastoma cancer stem cells
 - Rickus' lab took over the project
 - Decided to move away from this route
 - o Potential in plant pharmaceuticals relating to use of the Arabidopsis line for cancer medication
 - o Anti-angiogenesis agents through plants
 - o Transferrin for iron uptake in cells (tumor cells upregulate transferrin)
- Division of topics
 - o Half of the team will investigate oxygen sequestration, and half will investigate cancer and metabolism (ideally in connection to photorespiratory plants)
 - o Posting information on the Wiki
 - o Continued discussion of formatting for wiki