

UCL iGEM Organism and Part Check In

1. Information about Organism:

pseudomonas putida

a) What is the Risk Group of this organism? [Help]

Risk Group 2

2. Information about Part(s):

a) What is the natural function of this part in its parent organism?

PpDyP oxidises a wide variety of substrates very efficiently, like azo dyes, anthraquinones, phenolic compounds, manganese or veratryl alcohol.

b) Does the part, by itself, present any safety risks? If so, what are the risks? If not, why not?

PpDyP will cleave the azo dye into aromatic amines. Aromatic amines are carcinogenic meaning that this part can potentially produce toxic substances. Nitrile gloves will be used when handling azo dye solutions used to characterise our parts preventing any direct contact with the skin.

In our device PpDyP will be used in conjunction with other enzymes, overall our system will detoxify azo dye solutions. The aromatic amines are an intermediate step within the detoxification process

3. What will you use the part/organism for?

This enzyme will be used in conjunction with our other dye degrading enzymes. Incorporated with a promoter and RBS this part will provide a wider spectrum of azo dyes that our biological device can

4. How do you plan to acquire the part/organism?

The plasmid containing the gene of interest was sent to us from Universidade de Lisboa as part of our collaboration.

5. Does this part/organism require any additional safety precautions, beyond the precautions you will take for ordinary lab work? How will you handle the part/organism safely and protect members of your team, other people in your lab, and members of the public?

6. Further comments

(If you have already begun using this organism/part, briefly describe what you have done with it.)