

Medical – Doctors without Degrees

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Fix-It Virus

Genetic Disposition

- Certain gene sequences cause mental disorders.
- Solution:
 - An engineered virus, which would counteract the functionality (or incapability) of that particular gene sequence by inserting an engineered sequence



HelperBacs

Drug-secreting Bacteria

- Possible target – hemophiliacs among other diseases involving proteins
- Live bacteria that would secrete the medicine in the bloodstream based on a timed schedule programmed into the bacteria beforehand
- Additional perk: regulate protein levels by sensing changes in the blood



Bactofactory

Drug-synthesizing Bacteria

- Traditional methods of obtaining drugs can be too expensive or their sources could run out.
- Bacteria that are able to synthesize the drug (such as the one for malaria) would be harvested for the drug's production.



Cells on Steroids

Asthma

- Daily inhaler use can easily be forgotten by patients.
- Engineer cells that can be placed in the respiratory tract to release steroids or an anti-inflammatory medicine when it senses constriction. The system would be automated, and most likely it would be able to prevent asthma attacks.



Project Seastar

Regeneration

- Due to amputations or organ failure, many people have to live difficult, and in some cases, costly lives.
- Robotics would be able to help connect the brain to artificial limbs.
- The use of stem cells can be applied to regenerating new organs from their own cells to avoid an immune response.



C6H12O6 to the max

Insulin Resistance

- Overproduction of TNF-alpha due to a genetic defect may lead to inflammation, which has been shown to be a cause of insulin resistance.
- Limit phosphorylation of JNK by fashioning a competitive substrate for the enzyme
- Inhibitory regulator for a negative feedback loop



Summary

- Genetic Disposition
- The many functions of bacteria
- Remembering medication - asthmatic patients
- Regeneration of organs and/or limbs
- Insulin resistance