

Basics of Biosensors

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Basics

Sensors and detectors tell us a lot about our world and when we use biology to make them they become biosensors. In fact your very own nose is a biosensor. The difference between biosensors and biodelectors is that detectors only tell us yes or no, while biosensors tell us how much there is.

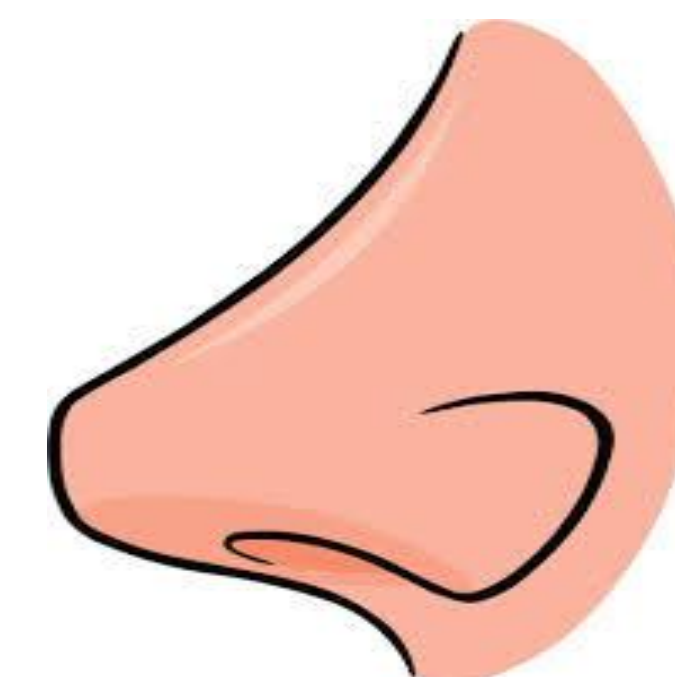
All of these biosensors and Biodelectors work using RTAD which means Recognition, Transduction, Acquisition, Decision. My friends and I will teach you about each of these steps!

Hi I'm Annie antibody and me and my friends are going to teach you about biosensors!



Recognition

Recognition is like a key going into a lock. Each key opens only one lock and each lock has only one key.



This happens when you smell something like an orange. Keys that you cannot see with your eyes called odor molecules with unique size and shape go into your nose and attach to locks called receptors that are specific for orange odor molecules.

Nice to meet you i'm Ray receptor . Now that you've learned the basics let's talk about recognition!



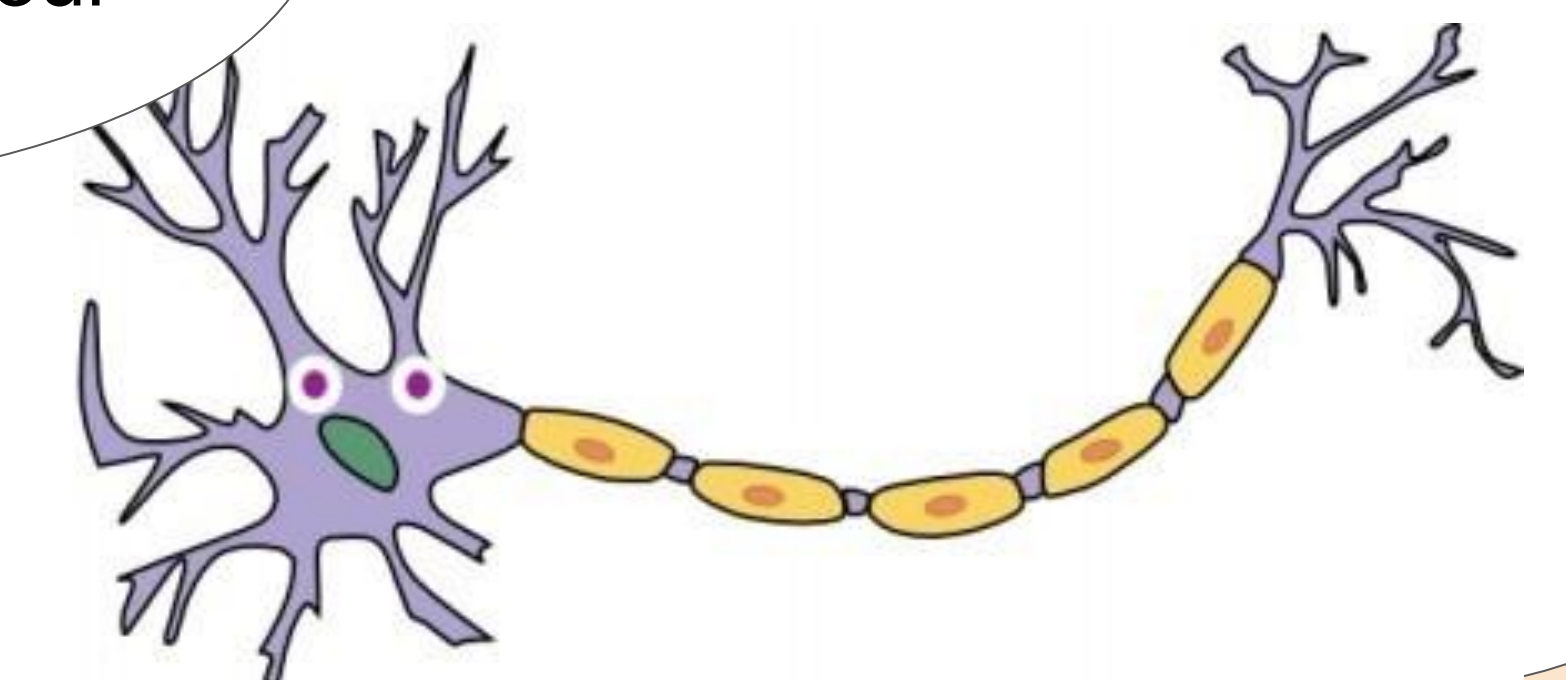
Transduction

Transduction is a change in energy state. It is like flipping the light switch. When you do that the lights go from off, a low energy state, to on, a high energy state. This happens after recognition happens. When you smell an orange the odor molecules find their unique receptors and nat nerve here changes the energy state in your body does this by firing a signal to your brain.

Acquisition

Acquisition is the signal capture. In this step your brain takes Nate nerves' signals and processes them and learns. This tells us that oranges smell the way they do.

Hello, i;m Nate nerve. I help you smell by sending signals to your brain.



Decision

When we smell and our brains process the signals and it learns. As the brain learns it makes decision on what smells pleasant and what does not. This is why skunks smell bad and things like oranges smell good.



Did you Know?

Dogs have amazing noses that are much better at smelling things then our human noses. This is because they have way more receptors in their noses. In other works they hove 300 million locks while we only have 6 million.

