

# Biohackers reengineering baker's yeast to make vegan cheese

July 15 2014, by Bob Yirka



A group calling themselves biohackers, from the San Francisco Bay area has created an Indiegogo project called "Real Vegan Cheese!" Their goal is to create cheese that is every bit as good as that made from mammalian milk, without using the mammal.

Those who adhere to veganism eschew anything made from animal parts, thus in addition to avoiding eating meat, they also stay away from [dairy products](#) such as cheese. Many people have tried to create a palatable substitute, but most would agree, the results have been less than satisfactory. In this new effort, the researchers are attempting to recreate the process from the beginning by mimicking Mother Nature, without involving cows. They have been engineering milk-protein genetic sequences and inserting them into baker's yeast, which is then used to create cheese in the usual way, i.e. adding sugar, water, oil, etc. and then allowing fermenting to take place.

The effort is still apparently in the beginning stages, and costs a lot of money, hence the Indiegogo campaign—they team is looking for \$15,000 in backing (which they've already surpassed) to further develop the process which will involve learning about whether the cheeses that are made will taste good, feel good in the mouth and of course whether it might be possible to mass produce the result so that it can be sold alongside regular cheeses in grocery stores (pending FDA approval, of course.)

The team wants interested parties to note that the resultant cheese does not contain mammal DNA or genetically engineered material—all that stuff is in the yeast, which does not end up in the cheese. The goal is to create four proteins needed for cheese making, and then to make real vegan cheese. As part of their desire to promote veganism, the team will also be making the details of their research public so that others can make vegan cheese as well. Also, they note that everyone on their team is a volunteer. The goal is to create vegan cheese, not make money.

Initially, any cheese produced by the team will be sold as "not fit for human consumption" because as a food product it cannot be legally sold without approval of the FDA. Team-members are confident that once the process is firmly established there won't be any problems with approval, even with a type they are considering based on human milk-protein genetic sequences—it would be easier to digest and would reduce allergens.

**More information:** [www.indiegogo.com/projects/real-vegan-cheese](http://www.indiegogo.com/projects/real-vegan-cheese)

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