

Are Vegan Patties 100% Meat Free?

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ABSTRACT

In this Urban Barcode Project, we seek to investigate the various brands of vegan patties sold in grocery stores in New York City. We hypothesize that there will be some brands that sole that contain animal-products. We formed this hypothesis because of the latest research on vegan hot dogs containing animal-products uncovered by Clear Labs. Therefore, we expect the results to be similar to the results of the vegan hot dogs experiments. We performed this experiment by first extracting and isolating the DNA of the samples and then amplified by PCR and finally projected the amplified DNA using gel electrophoresis so that it is visible to the human eyes. Our result was a bit disappointing because we did not find any traces of animal DNA in the veggie patties, however we are able to verify that these veggie patties are animal-free making it safe for vegetarians to eat without worrying the content within the patties.

INTRODUCTION

Vegan hot dogs are hot dogs produced completely from non-meat products. They are lower in fat, calories, and cholesterol. Vegan foods, in general, are foods that simulate meat based products except they entirely composed of vegetables and non-meat components. But recently, it has been reported that vegan hot dogs contain animal products. Clear Labs has conducted a study on 345 hotdogs and sausages, checking whether hotdogs are really comprised of the listed ingredients. They found chicken in 10 food samples, beef in 4 samples, turkey in 3 samples, and lamb in 2 samples in vegan hot dogs. This is a big issue because many people cannot eat regular hot dogs for a variety of reasons including health concerns and most importantly, their religious beliefs. The discovery that animal-products were found in vegan foods led us to examine whether or not other vegan foods contain animal products.

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VEGGIE PATTIES



METHODS AND MATERIALS

In this experiment the DNA from a variety of vegan patties were extracted to see if they contained any animal DNA. We collected five different brands of vegan patties on December 15, 2015, from a variety of stores in different locations including Food Bazar located in Long Island City and Key Food in Brooklyn, to ensure that the samples would be free from any bias. When searching for the vegan patties we looked to see if the packaging said that they were 100% vegetarian and made sure that the ingredients were free of meat. After the purchase of these samples, they were kept in the freezer to keep them preserved.

Vegan patties were obtained at our local grocery stores. Different brands of vegan patties were purchased and were kept frozen. Upon obtaining the samples, we documented the following: date of purchase, brand of patty, location of purchase. Results will be recorded as indicated in the table below.

We then extracted and isolated the DNA and amplified the DNA using PCR and finally projected it with gel electrophoresis.

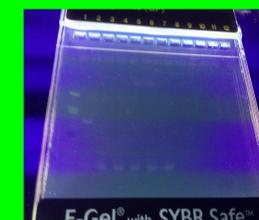
RESULTS

We collected five different brands of vegan patties, and performed a total of five trials. The stores we from which we purchase the patties from varied. In fact, since New York City is culturally diverse, we went to different kinds of stores such as the ones in Queens and Brooklyn to obtain the most diverse brands of veggie patties.

Vegan Patties	Date of Purchase	Location of Purchase	DNA of Vegetables found	DNA of animal-products found	References in database
Sample A	12/15/15	Food Bazar 42-02 Northern Blvd, Long Island City, NY 11101	Yes	No	None
Sample B	12/15/15	Keyfood 120 5th Ave, Brooklyn, NY 11217	Yes	No	None
Sample C	12/15/15	Keyfood 120 5th Ave, Brooklyn, NY 11217	Yes	No	None
Sample D	12/15/15	Keyfood 120 5th Ave, Brooklyn, NY 11217	Yes	No	None
Sample E	12/15/15	Food Bazar 42-02 Northern Blvd, Long Island City, NY 11101	Yes	No	None

DISCUSSION

After spending a significant amount of time conducting multiple trials for the experiment, our results showed no traces of animal DNA or products within any of the brands we've researched. There were many possibilities that could have led to this. We might've made errors for all of our five trials and therefore were unable to successfully collect the amplified DNA. Certain errors may include mistakes in micropipetting or in collecting the right sample size. However our control for the animal DNA was properly shown during the gel electrophoresis. Thus the chances that the result was caused by human error is very unlikely. One other possibility is that there weren't any animal dna from in the portion of the veggie patty we used. This would mean that our experiment verified at least that the veggie patties do not contain any animal product. This does not mean that it is made from 100% vegetables since there are findings from other researches that certain brands of veggie patties contain traces of harmful chemicals.



GEL ELECTROPHORESIS



REFERENCES

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Abby Campbell “Toxic veggie burgers: MorningStar Farms exposed”, naturalhealth365.com. Sept. 1, 2015.

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