

Barking up a Storm: What Dog DNA Testing Can Tell Us about Statistical Errors

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Recent technical advances have made sequencing more accessible than ever before, leading to an increase in public interest in DNA testing. DNA testing results include ancestry information and potential risk factors associated with disease. However, these results are largely dependent on the reference population used by each company, which leads to potential errors. While founded in human genomics, the field has expanded to offer DNA testing for dogs (carrying over the same kinds of problems)! Fostered by an activity detailing current sequencing tools, this active learning exercise has students identify type I/type II statistical errors using real results from Wisdom Panel Dog DNA tests. To enhance this activity, we conclude with a discussion of current genetic testing limitations, exercising students' abilities to critique popular science fads.

Keywords: dog DNA, statistics, genetic testing

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