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Author Namea\* and A. N. Authorb

aDepartment, University, City, Country; bDepartment, University, City, Country

Provide full correspondence details here including e-mail for the \*corresponding author

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Repeat the title of your article here

Astrocytoma differentiation is poorly defined, with current methods relying primarily on histology. Here we applied computational methods to the Curated Microarray Database (CuMiDa) to examine the similarities and differences between normal samples, pilocytic astrocytomas, medulloblastomas, ependymomas, and glioblastomas. We determined the relative contribution of each transcript towards astrocytoma differentiation and applied dimensionality reduction techniques to examine the separability of each tumour subtype. Further, we explored the accuracy of various statistical models for subtype prediction via microarray data.

Keywords: astrocytoma, clustering, glioma, modelling

# Heading 1: Introduction

Moreover

\* For this dataset, my primary question is whether or not we can determine the subtype of astrocytoma (a form of brain cancer) using gene expression data (Supervised Learning). The binary subquestion will be to simply determine malignancy through the expression data. The second question I would like to ask is how well the phenotype correlates with the genotype (Unsupervised Learning), and what genes are primarily responsible for the phenotypic variance. For this problem, this means assessing the distance between a sample and its cluster.

# Introduction

OUTLINE:

\* astrocytoma background

\* data from which paper

\* variable discussion

\* potential use cases of these models (e.g. autodiagnosis)

\* how to improve model

Paragraph: use this for the first paragraph in a section, or to continue after an extract.

New paragraph: use this style when you need to begin a new paragraph.

Display quotations of over 40 words, or as needed.

* For bulleted lists

1. For numbered lists

Displayed equation ( )

## Heading 2: use this style for level two headings

### Heading 3: use this style for level three headings

*Heading 4: create the heading in italics*. Run the text on after a punctuation mark.

Acknowledgements, avoiding identifying any of the authors prior to peer review

1. This is a note. The style name is Footnotes, but it can also be applied to endnotes.

References: see the journal’s instructions for authors for details on style

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