

MURC

MULTIDISCIPLINARY
UNDERGRADUATE
RESEARCH
CONFERENCE

MURC 2019

Presentation ID: 276

Presentation Format: 10-Minute Oral Presentation

Presentation Title: IDH epigenetic mutation role in Glioblastoma Malignant Transformation

Glioblastoma (GBM), a high grade tumour arising from the brain, is associated with a dismal 5 year survival rate of under 10%, the worst survival rate of all brain cancers. GBM can be segregated clinically into two classes: primary GBM which arise de novo; and secondary GBM which arises following malignant transformation of a pre-existing low grade brain tumour. Mutations in Isocitrate dehydrogenase (IDH) have been identified in roughly 10% of glioblastomas and is most commonly associated with secondary glioblastomas. Although secondary GBMs behave more favorable, clinically, compared to primary glioblastoma, patients ultimately succumb to their disease due to the infiltrative nature of the disease and its proximity to eloquent structures of the brain. IDH mutations have been studied heavily in the context of low-grade gliomas (early stages of the tumour), the precursor lesion of secondary glioblastomas, and has been shown to play an integral role in oncogenesis through dysregulating the 3-dimensional organization of DNA/chromatin, called the epigenome. However, the role IDH mutation plays and its effect on the epigenome during the process of malignant transformation from a low grade glioma to a GBM remains unclear. This proposed research proposal aims to investigate and understand the epigenomic changes that occur during malignant transformation of IDH mutant gliomas to secondary GBM by using epigenomic approaches.

Themes:

Check (highlight) the most applicable theme according to the abstract.

<input type="checkbox"/> Innovation and Technology	<input type="checkbox"/> Health and Wellness	<input type="checkbox"/> Culture and Society	<input type="checkbox"/> Sustainability and Conservation
--	---	--	--

Comments:

A lot of great content here, but a large amount of jargon used too. Have suggested some rewording that focuses on 'why' this project, 'what' this project aims to do [to address the research question], and 'how' this project will be carried out. Perhaps consider adding a line to say what the impact of the project could be for treatment or diagnostics of GBMs.

Commented [SN1]: Should avoid acronym use in the title

Commented [SN2]: There is a lot of jargon here. It could be resolved by rearranging the sentence and accepting some layman substitutions. Suggestion: Glioblastoma (GBM) is a high grade tumour arising from the brain. It is a high-grade cancer, which means it is aggressive and associated with a dismal survival rate. In fact, it has a 5-year survival rate of under 10% - the worst survival rate of all brain cancers.

Commented [SN3]: Avoid Latin – use simple language for non-medical audience

Commented [SN4]: What is Isocitrate dehydrogenase?

Commented [SN5]: Consider deletion: Your project focuses on GBM

Commented [SN6]: Consider deletion. You have mentioned IDH in the previous sentence, now move straight to aim of your project. (There is a large amount of jargon in these sentences, too, so deletion would save you a rewriting task.)

Commented [SN7]: Explain 'epigenome'.