<div class="“row”" style="“margin-bottom:10px;”">

<img alt="Lai Lab Research" src="/lai/files/view/images/Current\_Projects\_banner.jpg">

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<div class="panel-group" style="margin:0px 20px">

<div class="panel panel-info">

<div class="panel-heading">

<h2 class="panel-title" style="text-align: center;">

<a data-toggle="collapse" href="#collapse1">Investigation of tumor suppressive miR-148a in IDH mutant gliomas</a>

</h2>

</div>

<div class="panel-collapse collapse" id="collapse1">

<div class="panel-body">

This NIH R01 funded project investigates the tumor suppressive mechanism of a novel target, miR-148a, identified using an innovative and powerful DNA methylation profiling strategy established in the PI&rsquo;s laboratory. Although not yet studied in glioma, miRNA-148a is emerging as a tumor suppressive miRNA in other cancers. As small non-coding RNAs that suppress gene expression, miRNAs occupy key roles in cancer mechanisms and provide emerging therapeutic targets as either themselves or genes they regulate In this project, we test the central hypotheses that IDHMUT causes epigenetic silencing of the tumor suppressive miR-148a and that re-expression of miR-148a provides a novel strategy for glioma treatment, particularly for the IDHMUT subset. To do so, the aims are: 1) to investigate the molecular basis linking IDH mutation and miR148a downregulation, 2) to establish miR-148a downstream target genes contributing to tumor suppression, and 3) to explore the therapeutic potential of miR-148a in IDHMUT glioma. These aims will be accomplished by combining an unbiased high-resolution methylation profiling technique, extensive patient tissue resources, and a variety of cell models including patient-derived glioma neurospheres cells. Accomplishment of the stated aims will have a significant contribution towards the development of novel tailored treatments for gliomas based on restoration of deficient miRNAs.

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<div class="panel panel-info">

<div class="panel-heading">

<h2 class="panel-title" style="text-align: center;">

<a data-toggle="collapse" href="#collapse2">Novel epigenetic treatment of IDH mutant gliomas</a>

</h2>

</div>

<div class="panel-collapse collapse" id="collapse2">

<div class="panel-body">

This NIH SPORE funded project with Harley Kornblum as the Basic science leader and Albert Lai as Clinical science co-leader proposes herein to leverage our understanding of the biology of IDH mutant gliomas to test and develop new therapies for these tumors. Specifically, we intend to deplete an important transcription factor called OLIG2 with an FDA-approved drug, panobinostat, in combination with targeting mutant IDH with the experimental drug, AG-881, which is a brain-penetrant, pan-IDH mutant inhibitor. This combination will be tested in clinical trials.

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<div class="panel panel-info">

<div class="panel-heading">

<h2 class="panel-title" style="text-align: center;">

<a data-toggle="collapse" href="#collapse3">Use of methylation editing for glioma therapeutics</a>

</h2>

</div>

<div class="panel-collapse collapse" id="collapse3">

<div class="panel-body">

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<div class="panel panel-info">

<div class="panel-heading">

<h2 class="panel-title" style="text-align: center;">

<a data-toggle="collapse" href="#collapse4">Retrospective analysis of bevacizumab outcomes in glioblastoma</a>

</h2>

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<div class="panel-collapse collapse" id="collapse4">

<div class="panel-body">

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