**INTRODUCTION**

M2 is a dominant negative transcription regulator that belongs to the Id gene family, since it associates with other members of class I and class II Hox, directly blocking the transcription by epigeneticists. M2 is involved in the regulation of proliferation, invasion, migration, metastasis, angiogenesis and immune response.

**OBJECTIVES**

We aimed to evaluate trametinib as a pharmacological inhibitor of M2 and enhance anti-PD-1/PD-L1 treatment efficacy through PD-L1 upregulation.

**MATERIAL AND METHODS**

In vitro

<table>
<thead>
<tr>
<th>LGLD-Immortal cells line</th>
<th>LGLD-Human cells line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-Id1</td>
<td>4000</td>
</tr>
<tr>
<td>Anti-M2</td>
<td>4000</td>
</tr>
</tbody>
</table>

III. PD-L1 overexpression generated after MEK1/2 inhibition is dependent on Id1 blockade

**RESULTS AND DISCUSSION**

I. MEK1/2 inhibition decreased Id1 expression in vitro and in vivo

**II. MEK1/2 inhibition increased PD-L1 expression replicating the effect of Id1 genetic silencing**

**CONCLUSIONS**

1. MEK1/2 Inhibition through trametinib significantly decreased Id1 expression in vitro and in vivo, replicating genetic silencing with specific siRNAs against Id1.

2. PD-L1 upregulation induced by Id1 pharmacological blockade after trametinib treatment, could be used as a novel therapeutic strategy to sensitize NSCLC to anti-PD-1/PD-L1 immune checkpoint inhibitors.

**ACKNOWLEDGEMENTS**

1727P: TRAMETINIB ENHANCES PD-L1 EXPRESSION IN KRAS-MUTANT NSCLC VIA ID1 DOWNREGULATION

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