

**Supplementary Table 4.**

Percentage of point mutations with H3K36me3 marks in the SETD2mut samples compared to the SETD2LOH samples

<b>SETD2 status</b>	<b>mutations in H3K36me3 sites</b>	<b>mutations not in H3K36me3 sites</b>	<b>Percentage of mutations in H3K36me3 sites</b>
<b>Mutant</b>	1584	1322	54.5
<b>LOH</b>	7973	8908	47.2

**Supplementary Table S5.**

Number of samples successful immunohistochemically stained and scored for each marker combination.

	<b>SETD2</b>	<b>H3K36me3</b>	<b><math>\gamma</math>H2AX</b>
<b>SETD2</b>	189	194	191
<b>H3K36me3</b>	194	191	190
<b><math>\gamma</math>H2AX</b>	191	190	192