

**Supplementary Table 2. Associations between fusion status or *RAS* mutation status and DNA methylation subsets in RMS discovery and validation cohorts**

Cohort	Fusion-positive Cluster				Fusion-negative Cluster			
	Fusion	FP-1 (No./ total No., %)	FP-2 (No./ total No., %)	P Value	Mutations	FN-1 (No./ total No., %)	FN-2 (No./ total No., %)	P Value
<b>Discovery</b>								
	<i>PAX3-FOXO1</i>	4/12 (33%)	8/9 (89%)	0.024	<i>RAS</i> family	0/5 (0%)	7/12 (58%)	0.044
	<i>PAX7-FOXO1</i>	8/12 (67%)	1/9 (11%)	0.024				
<b>Validation</b>								
	<i>PAX3-FOXO1</i>	0/7 (0%)	14/16 (88%)	<0.001	<i>RAS</i> family	2/12 (17%)	8/13 (62%)	0.041
	<i>PAX7-FOXO1</i>	4/7 (57%)	1/16 (6%)	0.017				