

**S3 Table.** Gene Ontology Enrichment Analysis\_Molecular Function

ID	Name	p-value	Hit in Query List
GO:0140658	ATP-dependent chromatin remodeler activity	0.00000701	ARID1A,SMARCA4,CHD4
GO:0140297	DNA-binding transcription factor binding	0.0000205	ARID1A,SMARCA4,PIK3R1,CHD4,KEAP1,TCF12
GO:0019904	Protein domain specific binding	0.0000267	KRAS,CACNA1D,TNK2,PIK3R1,KEAP1,TCF12,NKD1
GO:0031491	Nucleosome binding	0.000062	ARID1A,SMARCA4,CHD4
GO:0061629	RNA polymerase II-specific DNA-binding transcription factor binding	0.0000663	ARID1A,SMARCA4,PIK3R1,CHD4,KEAP1
GO:0008134	Transcription factor binding	0.0000856	ARID1A,SMARCA4,PIK3R1,CHD4,KEAP1,TCF12
GO:0044877	Protein-containing complex binding	0.000224	ARID1A,KRAS,SMARCA4,PIK3R1,CHD4,AMER1,CAPN2,ACVRL1
GO:0008094	ATP-dependent activity, acting on DNA	0.000308	ARID1A,SMARCA4,CHD4
GO:0016922	Nuclear receptor binding	0.00101	ARID1A,SMARCA4,PIK3R1
GO:0140097	Catalytic activity, acting on DNA	0.00269	ARID1A,SMARCA4,CHD4
GO:0042393	Histone binding	0.00301	SMARCA4,CHD4,KMT2D
GO:0003713	Transcription coactivator activity	0.0038	ARID1A,SMARCA4,KMT2D