

Summary of Identified altered genes in CCM models with various validations.

CCM1 delimits relationship of PTB/Ph domains (1)	proteomic analysis of cerebral cavernous malformation in HUVEC's (7)	Biomechanics of endothelial tubule formation differentially modulated by cerebral cavernous malformation proteins (4)	Target: (H.sapiens) FROM zebrafish De-pick target proteins (5)	Target: (H.sapiens) FROM C.Elegans De-pick target proteins (5)	Proteomic identification of the CSC (8)	Proteomic analysis of Krt11 Loss-of-Function (3)	CCM3 Gene Network (6)	scml1 proteomics in HBMVEC's (9)	CCM2 PROTEOMICS in HBMVEC's (9)	CCM3 PROTEOMICS in HBMVEC's (9)	scml1 RNA in zebrafish (9)	CCM2 RNA in zebrafish (9)	CCM3 RNA in zebrafish (9)
DAB2	SEPT7	ADD1	ABC1	AKT3		<i>Actb</i>	APP	CDH5	CDH5	SUN1	APBA2	CCM2	
DOK4	<i>ACTB</i>	COL8A1	CSF1R	APP	Proteins Identified from SDS-PAGE Gel and ESI-MS	Ckb	APLP1	CAPN2	SUN1	PRKCSH	<i>ITGB4</i>	<i>ITGB4</i>	
NUMB	ANKA1	FN1	CYP27A1	BCL2	Proteins that selectively interact with FLAG-OSM	<i>Tpm4</i>	CDC25A	MCM3	MCM3	CAV1	TJP1	TJP1	
PLEK	ANKA2	ITGA2		BCL2L1	HSP90	<i>Tubb4b</i>	CDC25B	SUN1	CNN3	DD1	CCL2		
RGS12	ANKA5	<i>ITGB4</i>	FLT1	BCL2L2	TUBA4A	<i>Vim</i>	CDC25C	GLOD4	PSMEI	GLOD4			
TBC1D4	ANKA6	LAMA5	KIT	BR5K1	TUBA1C	<i>Eno1</i>	CDC42	GAPDH	NOS3	PSMEI			
TLN2	ARF3	MYO1B	LCK	CAMK1D	TUBB4A	<i>Gapdh</i>	ARHGEF5	CNN3	PRKCSH	PLOD2			
TNS2	ARF1	PLCC	PDGFRA	CAMK2A	PDCD10	<i>Calr</i>	ARHGEF15	NOS3	DD1				
	ARF4	SPTAN1	PLK1	CAMK2B	Proteins that nonspecifically interact with anti-FLAG antibody-conjugated beads	TPM3	ARHGEF26	PRKCSH	HSPB1				
	CALR	SPTBN2	PPP3CA	CCR5	Proteins Identified by MudPIT Analysis That Selectively Interact with FLAG-OSM		NGEF	DD1	SFPQ				
	CAV1	THBS1	RARA	CDC25A	Previously identified CCM complex members		DLL1	CAV1					
	CDC42	CDH5	RXRA	CDC25C			DLL4						
	CLIC4	CFL1	SNCA	CYP27A1	PDCD10		JAG2						
	CNN2	CNN2	TUBB4B	DNM1	Cytoskeletal proteins		RORA						
	COPA	FLNB	USP1	DPP4	MYH10		RORC						
	EF1A1	WEE1	EPHA2	TUBB4A	TUBB4A		ARHGAP30						
	EHD4	TUBA1A	FYN	TUBB4B	TUBB4B		ARHGAP31						
	FAS	TUBB4A	G6PD	CFL1	CFL1		SDC1						
	FLNA		LTBR	TUBB4A	TUBB4A		SDC4						
	FLNB		MAP2K5	TUBA1C	TUBA1C		EXOC6B						
	FLNC		MAP4K4	TUBA1A	TUBA1A		STXBP6						
	FSCN1		MELK		Protein translation and folding		FERMT3						
	GSTO1		MMP14	EF1A1	EF1A1		CCT2						
	HSPB1		MMP2	DNAJB6	DNAJB6								
	ICAM1		NPC1L1	CCT2	CCT2								
	LAMA4		NQO1	HSP90	HSP90								
	LDHB		NR1H4		Signaling								
	MMRN2		PBK	GNB4	GNB4								
	MT2		PPP3R1		Vesicular transport proteins								
	MYH9		PRKCG	COPA	COPA								
	MYO1C		PRKCH	ARF1	ARF1								
	PDIA6		PSIP1	ARF2	ARF2								
	PIR		PTGES	ARF3	ARF3								
	PLCC		PTPN1	ARF4	ARF4								
	PLOD1		RARA		Metabolism and biosynthetic proteins								
	PLOD2		RBP1	END1	END1								
	PTMA		RORA	CAD	CAD								
	PTRF		RORC	PAICS	PAICS								
	PXDN		RXRA		Miscellaneous								
	RCN1		SLK										
	SDPR		TLR4										
	SFPQ		TOP2B										
	TGM2												
	TPM2												
	TPM3												
	<i>TPM4</i>												
	VWF												
	XRECS												
	ZYX												

Supplemental Table 18. Summary of Identified altered genes in CCM models with various validations. A summary of "validated genes" across 9 CCM studies were analyzed to identify genes that overlapped as perturbed in various CCM models. Studies are divided into columns based on detection method, background strain (i.e. mouse BMEC Ccm1/Krt11 ECKO) and organism. Genes that are bolded are genes duplicated in two studies, genes italicized are duplicated in three studies, and gene undelined is duplicated in 4 studies. The largest cohort (First 6 columns in supplemental table 1A) are not included in this table as they have significant overlaps within each column, complicating the summarized data, but were counted as "validated" if gene(s) was found in another cohort (EX: TUBB4B was identified in 3 cohorts, shown here in this table, as well as the largest cohort (not shown in this table) therefore making it validated across 4 studies). Abbreviations: Differentially expressed genes (DEG's), human umbilical vein endothelial cells (HUVEC), Human Brain Microvascular Endothelial Cells (HBMVEC). Reference numbering can be found in Supplemental Table 7.