

## Supplementary Online Content

### **VCAN canonical splice site mutation is associated with vitreoretinal degeneration and disrupts an MMP proteolytic site**

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**Supplemental Table 1.** Putative MMP-2 cleavage sites in the versican GAG $\beta$  chain.

<b>P1 Position</b>	<b>Residues</b>	<b>PWM Score</b>	<b>N-Mass (Da)</b>	<b>C-Mass (Da)</b>
<b>1339</b>	<b>GRMSD-LSVIG</b>	<b>2.38</b>	<b>146729.77</b>	<b>225875.2</b>
1541	TEPVS-LFPEE	1.19	169022.91	203582.06
1629	RQVVE-LSGSS	3.16	178606.55	193998.42
2096	IEPAK-LWSRQ	7.1	228603.42	144001.55
2179	TSLVN-MSTPD	3.77	238251.88	134353.09
2239	HFPKG-MRPTI	5.46	244759.04	127845.93
2423	PKPSD-LYYEP	4.53	264739.52	107865.45
2531	FEDST-LKPNR	0.31	276427.9	96177.07
2715	AEAKA-LDDMF	1.43	296779.79	75825.18
2819	STFAK-LSSQT	3.88	308190.04	64414.93
2848	PQPSA-LPGID	4.45	311100.39	61504.58
2891	TEPPS-LSPDT	1.96	315793.62	56811.35
3017	ETQAA-LIRGQ	3.01	329194.02	43410.95

**Supplemental Table 2.** FRET Peptides used in MMP-2 experiments.

Peptide	Description	Sequence	FRET Pairs	Ex/Em (nm)	Catalog Number
520 MMP FRET Substrate III	Positive Control	PLGC(Me)HAR(D-)K	QXL/5-FAM	490/520	AS-60570
Scrambled 520 MMP FRET III	Negative Control	HGLC(Me)ARPK	QXL/5-FAM	490/520	AS-69139-1
VCAN p.1335-1347	Experimental	GRMSDLISMIGHPIK	QXL/5-FAM	490/520	AS-69139-2
Scrambled VCAN p.1335-1347	Negative Control	IMDGGHLIPMSRSK	QXL/5-FAM	490/520	AS-69663

