ONLINE SUPPLEMENTAL MATERIAL

FIGURE S1. **Zebrafish** *decorin*. *A*, amino acid alignment of human, mouse and zebrafish *decorin*. Alignment was constructed in Jalview (Clamp, M., Cuff, J., Searle, S. M. and Barton, G. J. (2004), "The Jalview Java Alignment Editor," Bioinformatics, 20, 426-7). Shading corresponds to percent identity among species. *B*, zebrafish *decorin* exon organization. *C*, zebrafish *decorin* is a chondroitin sulfate proteoglycan despite harboring the heparan sulfate attachment/consensus sequence, SGD. Compare the highlighted sequence from zebrafish *decorin* to a heparan sulfate attachment sequence found in human perlecan and to the predicted heparan sulfate attachment/consensus sequence. Note also the presence of shared amino acid residues upstream and downstream of the main SGD consensus. The corresponding region from human decorin is shown for comparison.

FIGURE S2. **Zebrafish** *decorin* **functional analysis.** *A*, conditioned media from 293-EBNA cells synthesizing zebrafish *decorin* binds collagen, fibronectin and laminin. *B*, Two-h treatment with zebrafish decorin decreases EGFR tyrosine kinase levels in HeLa cells. *C*, Zebrafish decorin inhibits tumor cell proliferation (***, p = 0.001). Panel *C* represents one of two independent experiments. *D*, Zebrafish decorin increases tumor cell apoptosis after a 24 h treatment (***, p = 0.001). The values presented in *C* and *D* represent the mean \pm S.E. (n = 6).

FIGURE S3. **Zebrafish** *decorin* expression profile. A similar pattern of decorin expression has been determined by gene expression profiling (1).

FIGURE S4. **Zebrafish** *decorin* **immunohistochmistry.** Panel *A* represents immunostaining of 4 hpf uninjected embryos with anti-decorin antibody, and panel *B* represents immunostaining of injected embryos without primary antibody. *C*, human decorin proteoglycan can be detected by immunostaining of cryosections of 4 hpf injected embryos with goat anti-human decorin. Regions positive for decorin correspond to the Rhodamine (red) signal and nuclei are stained with DAPI (blue). Notice the pericellular localization of human decorin (white arrows). *Bar*, 25 µm.

References

1. Ouyang, M., Garnett, A. T., Han, T. M., Hama, K., Lee, A., Deng, Y., Lee, N., Liu, H.-Y., Amacher, S. L., Farber, S. A., and Ho, S.-Y. (2008) *Gene Expr. Patterns* **8**, 171-180

Α												
		10	3	20 :	30	40		50	60	70	80	
	Human	MKATIILLLA	QVSWAGPF		EDE <mark>AS</mark>	GIGP	EVPDDRD		FEPSLG	PVCPFRCQCH	ILRV <mark>V</mark> QCSDLG	
	Mouse	MKATLIFFLLA	AQV SWAGPF	EQRGLFDFML	EDEAS-	GIIP	YDPDN		PL1	SMCPYRCQCH	ILRV <mark>V</mark> QCSDLG	
	Zebrafish	MKSACLSLLLV	SVCWALPFI	RQSGFMDFVM	EDEPAS	GDGPGP	ELPTTRK	PHVERLP	MMPEGPEV	PFCPFRCQCH	ILRVAQCSDLG	
		90	100	110		120	130	L	140	150	160	
	Human	LDKVPKDLPPC	TTLLDLQN	NKITEIKDGD	FKNLK	ILHALIL	VNNKI <mark>sk</mark>	VSPGAFT	PLVKLERL	YLSKN <mark>q</mark> lke <mark>l</mark>	PEKMPKTLQE	
	Mouse		OTTLLDLQN	NKITEIK <mark>EGA</mark>	FKNLK	UNTE I L	VNNKISK	ISPEAFK	PLVKLERL	YLSKN <mark>Q</mark> LKEL	PEKMPRTLQE	
	Zebrafish	LKTVPEKIPLD	TTLLDLQN	NKITEIKEND	FKGLK	BLQTLIL	VNNKITI	I HAKAFS	SLINLERL'	YLSKN <mark>l</mark> lkev	PANIPKSLQE	
		170	180	190	20	D	210	220		230	240	
	Human	LRAHENE I TKV	/RKVTFNGL	NQMIVIELGT	NPL <mark>KS</mark> S	G I E NGA	F QGMKKL	SY I R I <mark>A</mark> D	TNITSIPQ	GLP <mark>PSLTEL</mark> H	ILDGNK I <mark>SR</mark> V <mark>D</mark>	
	Mouse	LRVHENEITKL	RKSDFNGL	NNVLVIELGG	NPLKNS	GIENGA	FQGLKSL	SYIRISD	TNITAIPQ	GLPTSLTEVH	ILDGNKITKVD	
	Zebratish	LRIHENQINKI	KKSSFAGM	ANVIVMELGS	NPLSSS	GVDNGA	FADLKRV	SYIRIAD	INLISIPK	GLPSSLFELF	ILDGNKTTKVT	
		250 2	60	270	280	2	90	300	310	320	330	
	Human	AASLKGLNNLA	AKLGLSFNS	ISAVDNGSLA	NTPHLF	RELHLDN	NKL TRVP	GGLAEHK	YIQV <mark>V</mark> YLH	NNNISVVGSS	DFCPPGHNTK	
	Mouse	APSLKGLINLS	SKLGLSENS	ITVMENGSLA	NVPHLF	RELHLDN	NKLLRVP	AGLAQHK	YIQVVYLH	NNNISAVGQN	IDFCRAGHPSR	
	Zebratish	AUSLKGLKNLS	SKLGLSHNE	ISVVENGSLA	NVPHLE	ELHLEN	NALIAVP	AGLADHK	YIQVIYLH	SNKTAAVGTE	DECPEGINIK	
		340	350	360		370						
	Human	KA <mark>S</mark> YSGVSLFS	SNP V QYWE I	QPSTFRCVYVI	RSAIQL	.GNY <mark>K</mark>						
	Mouse KASYSAVSLYGNPVRWEIFPNTFRCYTYRSAIOLGNYK Zebrafish KAMYSGISLFSNPVPYWEVQPITFRCVFDRSAIOLGNYRKK											
В	3 C											
	Exon	Nucleoti	des A	mino Acid	s					0	~	
	1	1-267	7	1-83		Hun	nan de	corin:	E	EDEAS	JIGPE	
	2	268-37	78	84-120								
	3	379-59	91	121-191		Zeb	rafish (decori	n: El	JEPAO	JUGPG	
	4	592-70	08	192-230		Live						

Nucleotides	Annio Acius		<u> </u>		
1-267	1-83	Human decorin:	EDEASGIGPE		
268-378	84-120	7.1	FREDA SCDORO		
379-591	121-191	Zebratish decorin:	EDEPASSODGPG		
592-708	192-230		DICSGDICS		
709-801	231-261	numan periecan.	DLGOODLGS		
802-942	262-308	Predicted HS:	EDEGSGDGP		
943-1140	309-373	Tredicted 110.			



Figure S2









