Supporting Information

Chiral microenvironment promotes retinal progenitor cells proliferation by activating the Akt and ERK pathways

Na Sun,[a,d] Jiajing Wang,[b] Xiaoqiu Dou,*[c] Yiqi Wang,[b] Yuan Yang,[a] Dong Xiao,[a] Peiquan Zhao,[a] Jing Li,[a] Shuting Wang,[c] Ping Gu*[b] and Jing Ji*[b]

[a] Department of Ophthalmology, Xinhua Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, 200092, China;

[b] Department of Ophthalmology, Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, 200011, China;

E-mail: guping2009@sjtu.edu.cn, flowerrainday@sina.com

[c] State Key Lab of Metal Matrix Composites, School of Materials Science and Engineering, Shanghai Jiao tong University, Dongchuan Road 800, Shanghai, 200240, China;

E-mail: douxiaoqiu@sjtu.edu.cn

[d] Shanghai Key Laboratory of Orbital Diseases and Ocular Oncology, Shanghai, 200011, China.

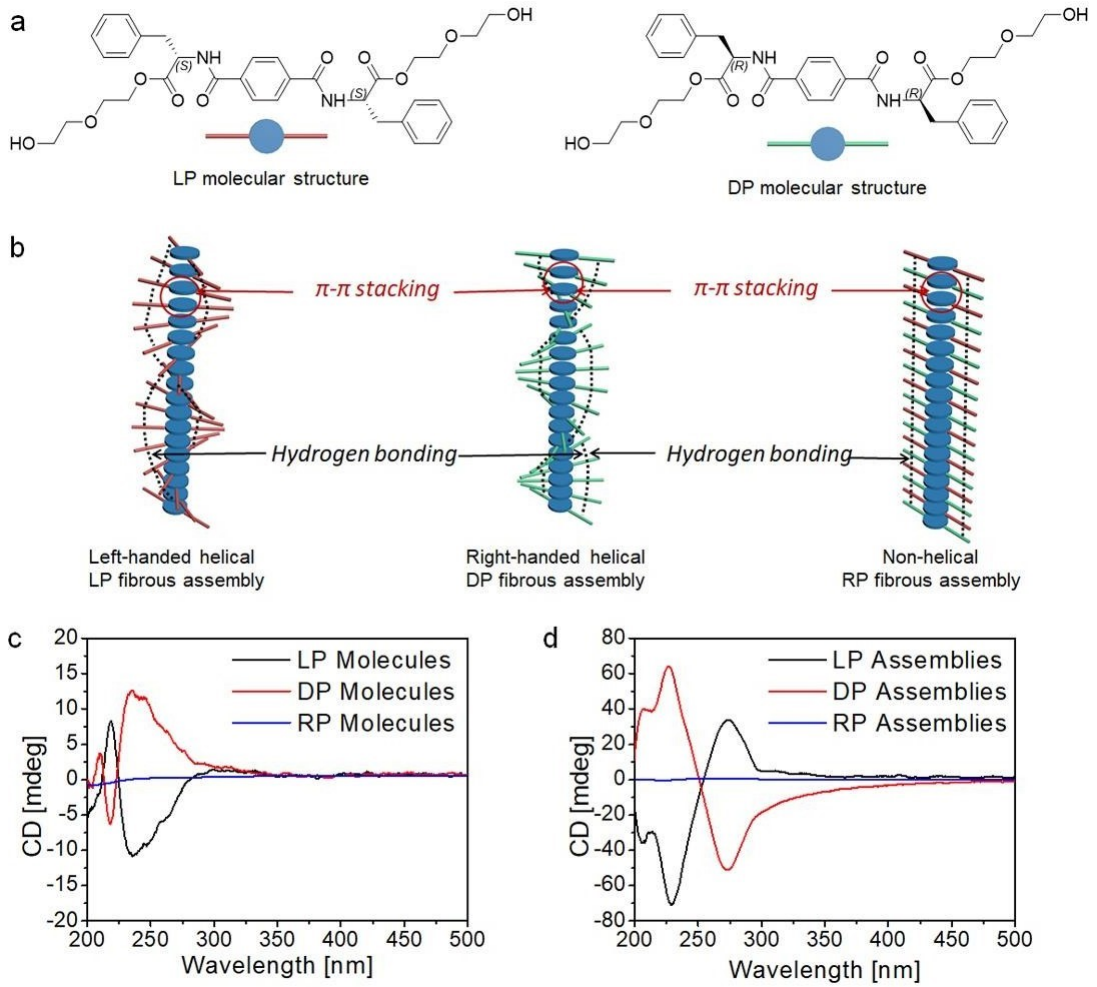

Figure S1. (a) The molecular structures of LP and DP. (b) The assembly was driven by π - π stacking and hydrogen bonding interactions. (c) CD spectra of LP, DP, and RP molecules in MeOH. (d) CD spectra of LP, DP, and RP fibrous assemblies.

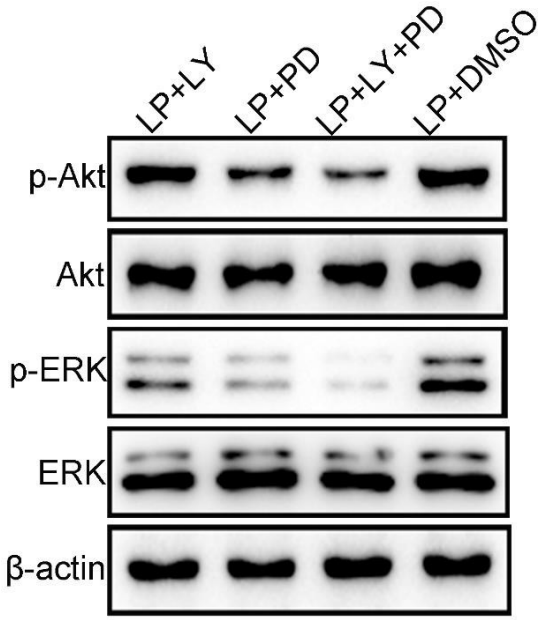

Figure S2. L-chiral nanofibrous films regulated RPC proliferation via Akt and ERK signaling pathways. RPCs were cultured with LY294002, PD98059, or LY294002 plus PD98059 in LP-treated group. Western blot assays revealed the temporal changes of phosphorylated (p-Akt, p-ERK) and total proteins.

Table 1. Primer pairs for qPCR analysis

Genes	Accession number	Forward (5′–3′)	Reverse (5′–3′)	Annealing Temperature （℃）
IL-6	NM_031168.1	aggagtggctaaggacaaga	ataacgcactaggtttgccga	60
MCP-1	NM_011333.3	acctgctgctactcattcacc	attccttcttggggtcagca	60
Annexin A5	NM_009673.2	tgctcaggagtttaagactctgttt	taatctcggtcaatactttctcgtc	60
β-actin	NM_007393	agccatgtacgtagccatcc	ctctcagctgtggtggtgaa	60
Ki-67	NM_001081117.2	cagtactcggaatgcagcaa	cagtcttcaggggctctgtc	60
Vimentin	NM_011701.4	tggttgacacccactcaaaa	gcttttggggtgtcagttgt	60

Table 2. Primary antibodies used for western blot assays

Antibodies	Type	Source	Dilution
β-actin	Mouse monoclonal	Millipore	1:5000
Vimentin	Mouse monoclonal	Millipore	1:1000
Akt	Rabbit monoclonal	CST	1:1000
Erk1/2	Rabbit monoclonal	CST	1:1000
p-Akt	Rabbit monoclonal	CST	1:1000
p-Erk1/2	Rabbit monoclonal	CST	1:1000