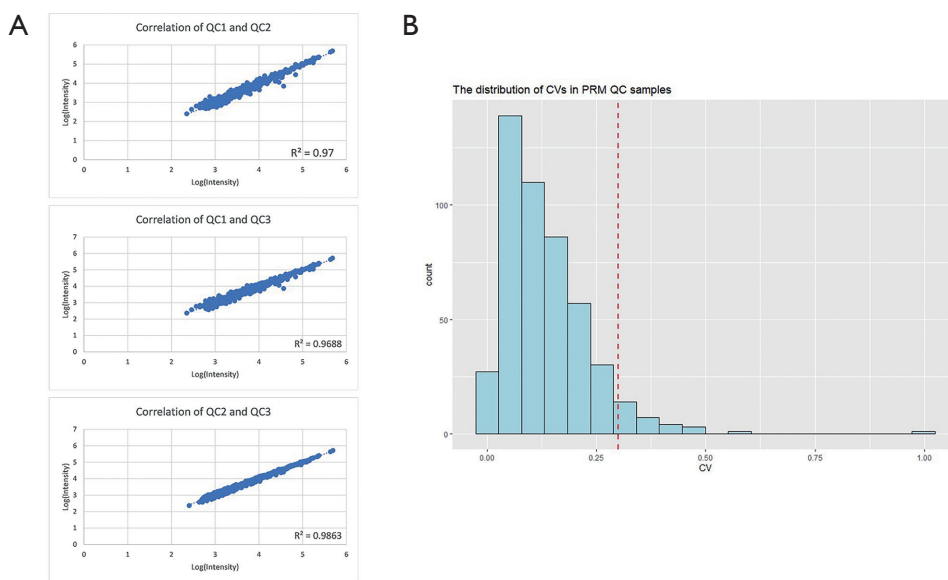
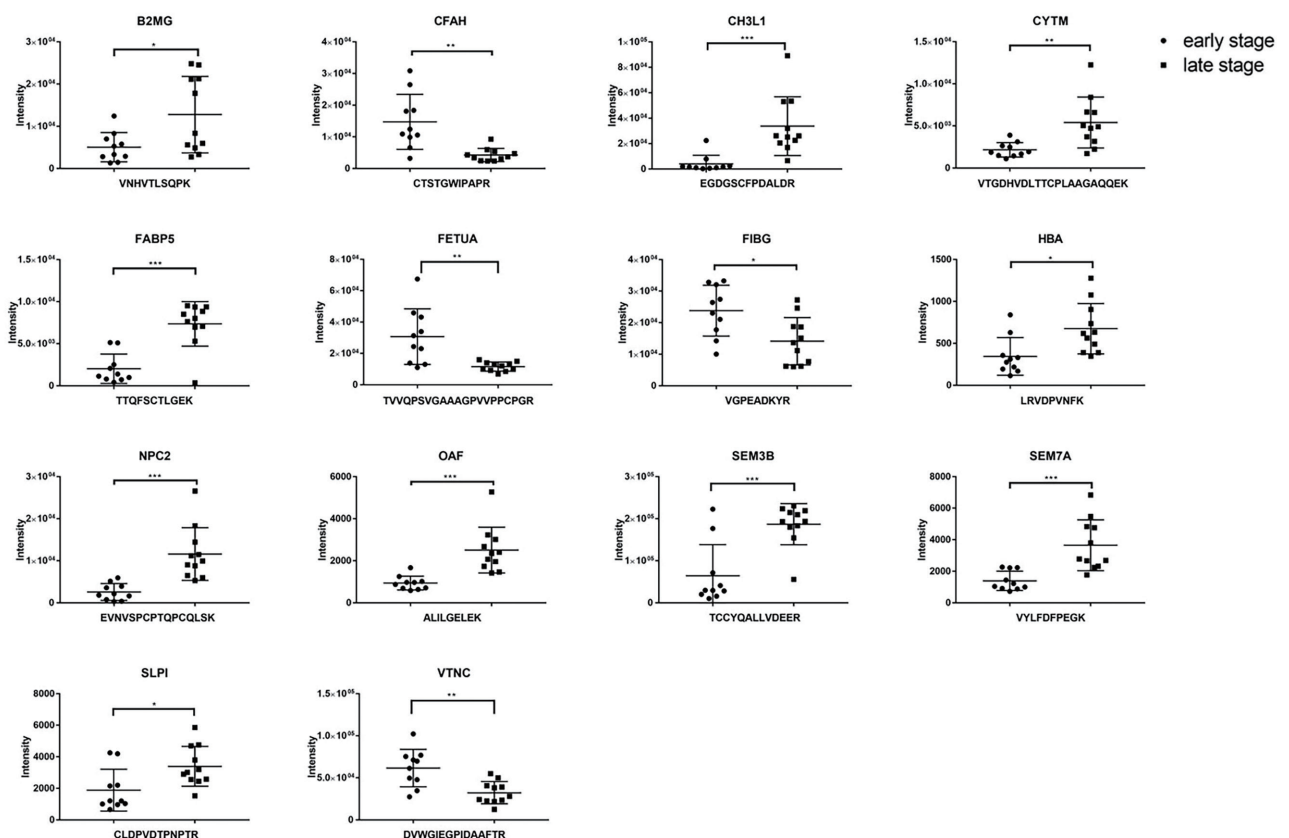


**Figure S1** Correlation and CVs of QC samples in DIA. (A) Correlation analysis results. (B) CV distribution. CV, coefficient of variation; QC, quality control; DIA, data-independent acquisition.



**Figure S2** Correlation and CVs of QC samples in PRM. (A) Correlation analysis results. (B) CV distribution. CV, coefficient of variation; QC, quality control; PRM, parallel reaction monitoring.



**Figure S3** The validated proteins by PRM method. The asterisks indicate the level of significance. \*, P < 0.05; \*\*, P < 0.01; \*\*\*, P < 0.001. PRM, parallel reaction monitoring.

**Table S1** The clinical information of participants

Number	Gender	Age	Diagnosis	VFI	IOP	Group
H1	Female	70	AACG	92	8	Experiment
H2	Female	67	AACG	94	25	Experiment
H3	Female	59	AACG	95	10	Experiment
H4	Female	64	AACG	97	17	Experiment
H5	Female	64	AACG	85	16	Experiment
H6	Female	73	AACG	98	13	Experiment
H7	Female	68	AACG	95	42	Experiment
H8	Female	64	AACG	97	15	Experiment
H9	Male	70	AACG	88	8	Experiment
H10	Female	72	AACG	95	8	Experiment
H11	Female	70	AACG	97	22	Experiment
H12	Female	63	AACG	99	36	Experiment
H13	Female	56	AACG	91	34	Experiment
H14	Female	63	AACG	98	35	Experiment
H15	Male	70	AACG	82	15	Experiment
H16	Female	67	AACG	86	26	Validation
H17	Female	59	AACG	94	48	Validation
H18	Female	62	AACG	88	10	Validation
H19	Female	51	AACG	95	13	Validation
H20	Female	62	AACG	92	T+2	Validation
H21	Male	72	AACG	86	44	Validation
H22	Female	57	AACG	98	50	Validation
H23	Female	63	AACG	85	23	Validation
H24	Female	58	AACG	94	15	Validation
H25	Female	61	AACG	98	35	Validation
L1	Female	80	AACG	0	25	Experiment
L2	Female	70	AACG	0.59	14	Experiment
L3	Female	79	AACG	18	T+2	Experiment
L4	Female	61	AACG	0	32	Experiment
L5	Female	81	AACG	20	50	Experiment
L6	Female	75	AACG	0	30	Experiment
L7	Female	78	AACG	5	T+2	Experiment
L8	Female	50	AACG	23	15	Experiment
L9	Male	65	AACG	0	T+2	Experiment
L10	Female	69	AACG	21	16	Experiment
L11	Female	76	AACG	24	40	Experiment
L12	Male	68	AACG	8	17	Experiment
L13	Female	66	AACG	27	45	Experiment
L14	Female	60	AACG	36	18	Experiment
L15	Female	56	AACG	35	55	Experiment
L16	Female	68	AACG	8	17	Experiment
L17	Female	65	AACG	0	T+2	Validation
L18	Female	65	AACG	0	T+2	Validation
L19	Female	72	AACG	4	20	Validation
L20	Female	66	AACG	0	35	Validation
L21	Female	60	AACG	0	14	Validation
L22	Female	60	AACG	34	16	Validation
L23	Male	70	AACG	5	7	Validation
L24	Female	80	AACG	0	T+3	Validation
L25	Female	66	AACG	6	56	Validation
L26	Female	73	AACG	9		Validation
L27	Female	86	AACG	0		Validation

VFI, visual field index; IOP, intraocular pressure.

**Table S2** The AH1 proteome results of PRM

Peptide	Protein	Protein name	L17	L18	L19	L20	L21	L22	L23	L24	L25	L26	L27	H16	H17	H18	H19	H20	H21	H22	H23	H24	H25	FC (late/early)
TVVQPSVGAAGPVPVPCGR	P02765	FETUA_HUMAN	12124.94	9213.218	9968.591	9915.957	6868.24	8568.323	15049.73	13034.23	16021.53	14026.64	13359.04	43251.94778	11026.6316	13099.46	33978.56114	45922.31	24401.05664	67495	23128.12	31351.4713	13928.37261	0.378761
CTSTGWIPAPR	P08603	CFAH_HUMAN	3415.899	4713.334	3708.854	2397.625	4350.448	2367.399	9279.81	3082.294	2467.996	5422.084	5993.191	18373.2161	6588.355086	10585.52	10902.07905	26469.79	12440.91026	30885.75	18115.22	9867.886813	3245.500093	0.290953
DVWVIEGPIIDAAFR	P04004	VTNC_HUMAN	40720.89	50009.97	22502.56	23560.62	12523.5	21841.91	55005.28	24319.09	39168.69	28082.59	38168.68	75416.09709	49626.20756	71267.7	76983.37891	102336.1	34855.18134	61421.24	69904.45	47870.45543	27519.02023	0.524221
VGPEADKYR	P02679	FIBG_HUMAN	7702.341	6223.975	18694.77	6203.559	13672.5	11144.31	18771.17	24651.25	6048.99	27234.6	15141.83	17786.1391	21090.45621	26452.72	27445.40184	32853.46	23057.14837	10062.87	32085.92	33279.57419	14251.25255	0.593015
YGQVPMCDAGEQCAVR	Q16568	CART_HUMAN	659.0818	631.3973	801.8015	366.9468	275.7723	987.57	456.228	291.9171	194.1919	1235.998	541.8668	331.1716379	401.9273599	275.2125	379.5196277	271.2662	534.1378195	137.9973	141.3171	133.5766911	452.3102616	1.915052
CLDPVDTNPTR	P03973	SLPL_HUMAN	5861.852	4760.924	2903.151	2583.257	3019.277	4705.725	2448.396	2566.408	1528.842	3802.334	3194.191	1012.51069	1033.37161	2206.057	4196.936023	1212.42	1204.100394	969.3744	2153.734	4256.570897	665.7079235	1.796683
CECFPLAVGLDGR	P35555	FBN1_HUMAN	1723.011	2383.289	1194.202	2137.645	1417.665	3236.83	1923.03	1413.419	1467.206	2370.196	1409.739	1081.683986	608.528935	955.2562	867.0290324	1124.545	1050.351551	1107.372	598.4739	445.255637	1088.791984	2.105519
ELLDVTAPQK	P36955	PEDF_HUMAN	201910.4	243733.5	289058.8	174989	203839	175134.9	58290.37	107439.7	113899.2	254922.7	95019.31	3671.202476	99572.13832	56575.42	27181.42682	5774.277	24256.86732	2309.758	10777.55	27610.59402	82924.47578	5.119133
VTGDHVDLTCPLAAGAAQDEK	Q15828	CYTM_HUMAN	4719.604	6609.882	5040.452	6659.484	3713.891	12257.87	4907.556	1722.619	2240.813	8402.551	3185.889	1490.272371	2639.626109	1681.411	3128.148313	1449.619	3905.061284	1108.503	2499.304	1937.591948	1863.982186	2.490615
TCCYQALLVEER	Q13214	SEM3B_HUMAN	214889	193081.8	183688.3	219089.1	180246.6	223847	55831.62	154528.6	209745.1	230554.5	194141.1	15972.58014	222757.2362	71617.35	29920.27866	41141.73	20426.68889	10324.91	29580.83	28454.75491	176892.7445	2.893577
ESAEVEEIVFPR	P19022	CADH2_HUMAN	3575.549	4548.888	4717.725	3173.97	3176.861	9988.763	3147.642	1583.408	2250.888	5404.495	1926.699	689.9409124	2211.873553	1359.724	1758.055793	648.2371	2296.274817	607.4143	998.0999	1307.664711	2089.905363	2.830978
TTOFSCITLGEK	Q01469	FABP5_HUMAN	7072.779	6968.93	8861.063	7635.611	8519.023	9371.762	5309.964	351.3422	9528.246	9399.238	8022.286	415.03978	5145.033942	2524.839	1393.201444	2063.788	731.7010995	999.9148	806.2022	1145.620856	5101.131935	3.624483
EGDGSCFPDALDR	P36222	CH3L1_HUMAN	26092.77	32058.49	53008.92	20547.1	26248.42	89167.88	6658.776	22653.52	16955.94	53464.53	25109.63	262.715163	22462.82899	2403.208	1845.603061	1020.114	1045.571794	599.1194	1594.257	1553.650202	7985.711635	8.293545
AQGFEDTIVFLPQTDK	P41222	PTGDS_HUMAN	398619.2	414132.1	411951.8	476248.2	361390.8	1205236	295046.2	260084.6	299425.6	819958.4	452854.5	15739.25466	196570.8503	161441.9	94533.71747	25042.46	63881.8476	4960.362	43503.26	54713.88858	255095.565	5.357278
ALILGELEK	Q86UD1	OAF_HUMAN	2073.638	3232.848	5278.735	2348.699	2414.711	2680.283	1738.8	1465.978	1422.56	3015.644	1964.336	694.9586645	1255.613798	1673.423	875.4726775	587.1067	635.707651	978.8004	972.2304	714.9637646	1022.453145	2.669702
LRVDPVNFK	P69905	HBA_HUMAN	632.5739	904.2175	563.7971	617.8137	346.2704	735.1397	491.832	1278.232	389.3716	390.147	1078.199	218.6306268	356.8241992	841.2499	629.7181645	114.6195	311.8791295	275.9946	330.8981	193.7956912	169.7903136	1.960957
VYLFDFPEGK	O75326	SEM7A_HUMAN	4768.403	3802.991	4833.383	2692.862	2668.563	6845.152	1778.544	2321.605	2248.32	5485.509	2786.269	732.2333943	2271.162385	2238.008	1006.571378	884.4807	1220.43123	916.2115	1448.693	1042.336147	2223.510855	2.615498
DFEPLGLPVCVPR	P07585	PGS2_HUMAN	5375.071	9188.245	3476.703	3308.997	2716.253	4704.802	919.494	1669.349	3089.489	7972.963	3807.459	1144.764298	2549.783523	1783.798	1564.296358	822.0767	856.3730887	1175.993	1222.431	1674.088202	1585.63741	2.922699
VVQCSDLGLDK	P07585	PGS2_HUMAN	2005.561	3900.999	1582.144	1122.665	1188.694	1465.665	1494.954	1693.498	1052.746	3177.673	1266.939	874.1640963	1291.623579	1193.072	1065.676894	1485.278	1311.246608	998.4066	886.8996	1072.628129	1188.532195	1.595576
EYVNSPCPTQCQLSK	P61916	NPC2_HUMAN	9927.194	9032.751	18341.66	8811.04	11490.02	26624.24	6505.596	5305.883	6019.16	14451.96	11224.23	393.1767173	5957.618306	3936.846	3599.21483	775.5922	1668.533427	301.6334	1838.28	2164.234367	5173.501577	4.499331
VNHVTLSPQK	P61769	B2MG_HUMAN	5600.99	8359.418	24844.7	4881.591	17840.48	21275.21	24538.61	2769.069	3334.056	21131.9	5959.982	1336.155699	7020.452465	8306.481	5276.389391	2907.197	2842.362028	1487.807	12440.15	5791.24299	3337.353869	2.517657
ISPDLCGR	P35555	FBN1_HUMAN	2941.168	4538.522	1140.414	2530.494	2211.806	2971.478	2510.496	1759.789	1666.139	3065.212	2054.002	380.990748	1364.370613	1735.146	914.135684	894.3507	1030.834211	322.7478	797.3216	669.34331	1607.904992	2.562436
TSLEDFYLDEER	P36955	PEDF_HUMAN	105180.2	132280.6	194813	112659.1	127399.7	268538.7	116425.1	107082.4	85220.83	165027.4	84852.8	13672.29921	56248.73375	78598.96	62534.52451	10250.81	38063.59307	12833.37	26081.49	51157.31794	80640.65689	3.169545
LOSLFDSPDFSK	P36955	PEDF_HUMAN	169652.7	177032.5	275230.3	171974.8	157009.8	312086	167954	187539.1	124938.3	240977.6	136293.1	47381.55775	113319.509	189776.5	148795.6918	39006.3	124288.0154	16911.45	90991.19	137399.6852	153110.9668	1.817091
KTSLEDFYLDEER	P36955	PEDF_HUMAN	20035.12	22612.03	53048.49	28493.3	31005.27	41912.19	37901.29	28555.32	23570.12	29529.12	20364.56	4401.285405	9505.491128	28732.12	23232.46733	4333.892	19466.35609	2815.371	10453.99	17093.4369	17318.61199	2.230661

AH1, aqueous humor; PRM, parallel reaction monitoring.