

## **Supplemental Inventory**

Table S1: Mean, standard error (SEM), coefficient of variation (CoV) and the number (n) of mice analyzed for retinal cell number, for each strain. The raw data in this table were used for both Figure 1 and Figure 2 in the main text.

KEY	Mean SEM CoV n																													
	B6/J	A/J	ABF1	BAF1	AXB1	AXB2	AXB4	AXB5	AXB6	AXB8	AXB10	AXB12	AXB13	AXB15	AXB19	AXB23	AXB24	BXA1	BXA2	BXA4	BXA7	BXA8	BXA11	BXA12	BXA13	BXA14	BXA16	BXA24	BXA25	BXA26
Rod	7,624,090	6,051,100	7,925,098	8,011,443	7,326,260	7,767,360	6,706,160	7,491,880	7,835,600	6,979,470	7,648,500	7,052,620	7,434,540	7,883,430	7,389,330	7,831,060	7,084,880	7,506,880	7,675,780	7,287,480	6,975,690	7,737,650	7,266,850	8,227,260	7,483,600	7,035,830	6,840,580	7,659,890	6,841,160	7,209,040
	106.813	168.898	230.914	119.619	80,204	71,769	143,894	85,194	72,028	97,114	103,959	228,675	89,807	86,133	97,723	67,352	377,156	68,057	103,673	170,649	107,601	185,602	90,458	51,473	61,004	185,223	238,534	142,123	151,891	122,706
	0.040	0.074	0.058	0.040	0.022	0.018	0.037	0.023	0.018	0.028	0.027	0.065	0.024	0.019	0.026	0.017	0.092	0.018	0.027	0.047	0.031	0.048	0.025	0.013	0.016	0.053	0.070	0.032	0.044	0.034
Cone	196,897	116,158			135,667	129,923	143,877	148,458	140,256	148,949	151,733	160,307	179,683	141,470	142,030	204,419	126,822	176,265	139,588	147,354	168,176	157,423	164,010	160,228	154,970	157,446	135,274	156,439	165,138	144,692
	5,435	2,737			3,958	4,311	3,507	5,525	3,755	2,975	3,274	1,641	3,426	3,063	5,773	5,532	3,219	3,316	4,626	4,833	2,776	3,595	3,915	3,390	2,767	13,672	4,761	5,504	2,908	4,993
	0.055	0.075			0.058	0.057	0.060	0.091	0.046	0.049	0.053	0.018	0.047	0.053	0.100	0.061	0.062	0.046	0.057	0.046	0.033	0.051	0.058	0.052	0.040	0.150	0.086	0.093	0.035	0.077
HC	18,471	9,884		14,417	14,136	13,372	13,348	15,441	13,472	13,460	17,343	13,724	13,210	17,857	14,116	15,077	13,129	15,712	13,582	16,699	15,133	14,778	13,945	16,455	18,538	18,942	15,097	12,715	16,619	13,860
	288	168		263	192	259	277	296	216	214	380	267	249	107	169	284	482	368	15	221	179	271	393	475	72	253	275	132	238	302
	0.044	0.045		0.036	0.027	0.043	0.041	0.038	0.032	0.028	0.044	0.039	0.033	0.012	0.021	0.033	0.073	0.041	0.002	0.027	0.024	0.037	0.056	0.050	0.008	0.027	0.032	0.021	0.029	0.038
RBC	213,873	209,009	244,523	240,957	251,177	225,740	205,137	235,566		208,742	235,140	242,005	212,694	202,415	211,652	237,294		226,916	227,262	239,211	254,176	238,863	224,397	244,927	233,122	227,040	242,530	252,859	235,811	229,224
	6,595	4,707	6,286	3,425	5,711	3,322	4,450	4,064		2,782	7,368	4,530	6,419	7,577	5,307	3,524		4,635	4,955	5,713	4,231	2,141	2,012	2,130	4,230	5,692	6,255	4,920	10,808	7,837
	0.082	0.060	0.057	0.040	0.045	0.029	0.043	0.035		0.027	0.063	0.037	0.060	0.075	0.050	0.030		0.041	0.044	0.048	0.033	0.018	0.018	0.015	0.036	0.050	0.052	0.039	0.092	0.068
CBC2	55,275	47,878	56,538	60,570	59,920	54,709	47,126	55,382	49,167	44,592	53,461	60,160	56,183	50,685	51,078	54,657	53,480	58,914	52,714	41,908	58,722	50,924	52,277	60,051	54,730	51,256	58,666	53,346	49,150	52,616
	895	1,548	669	1,264	691	509	1,293	667	1,867	849	371	1,730	1,100	981	1,246	995	667	1,812	2,292	1,285	1,347	710	1,494	800	2,648	1,057	1,530	801	1,647	1,194
	0.043	0.086	0.026	0.063	0.023	0.019	0.055	0.024	0.076	0.038	0.014	0.058	0.034	0.039	0.049	0.036	0.025	0.062	0.087	0.053	0.046	0.028	0.057	0.027	0.097	0.041	0.052	0.030	0.058	0.045
CBC3b	58,722	57,365	74,048	72,069	50,243	56,065	52,842	61,018	63,559	64,353	67,046	56,212	62,334	67,424	57,878	62,274		67,240	61,374	68,017	65,496	60,189	56,275	80,469	73,720	67,734	55,513	59,476	66,369	64,614
	849	2,596	1,511	1,147	1,734	3,942	2,010	1,367	148	842	301	898	2,669	938	2,564	2,318		1,826	3,239	889	4,205	454	1,696	1,346	2,788	228	529	1,679	1,891	571
	0.038	0.090	0.046	0.045	0.069	0.122	0.076	0.039	0.004	0.026	0.009	0.032	0.074	0.028	0.089	0.064		0.054	0.091	0.026	0.111	0.013	0.060	0.033	0.066	0.007	0.016	0.056	0.049	0.013
CBC4	36,940	31,772	48,895	49,109	33,746	50,260	35,352	35,270	46,106	41,745	44,294	36,657	49,825	44,640	47,749	39,517	34,491	41,946	47,010	35,703	41,245	44,888	33,652	37,444	42,439	29,351	38,483	42,897	36,076	39,836
	764	1,734	1,927	1,229	1,035	841	733	1,680	1,458	574	1,530	1,352	1,556	818	1,563	1,339	911	1,444	291	1,949	1,440	530	648	1,695	2,010	1,547	1,463	1,671	679	1,802
	0.055	0.144	0.079	0.061	0.061	0.033	0.041	0.095	0.055	0.028	0.069	0.074	0.062	0.037	0.065	0.068	0.053	0.069	0.012	0.109	0.060	0.024	0.039	0.091	0.095	0.091	0.076	0.078	0.038	0.078
AII	69,223	64,777	80,882	82,050	67,333	80,783	60,763	64,964	60,318	68,055	65,691	73,206	67,613	73,397	64,230	72,024	63,931	65,905	86,557	72,117	62,968	82,766	69,444	74,842	85,984	65,345	75,398	83,781	59,772	57,141
	1,566	1,517	804	1,309	1,404	2,720	2,682	1,010	1,134	1,532	1,123	861	2,890	888	2,148	1,997	858	1,562	1,602	1,625	1,903	909	2,766	2,270	2,125	1,120	1,419	1,486	1,475	334
	0.060	0.062	0.022	0.048	0.042	0.067	0.088	0.031	0.038	0.045	0.034	0.024	0.074	0.024	0.067	0.055	0.027	0.047	0.037	0.039	0.060	0.019	0.080	0.061	0.049	0.034	0.038	0.035	0.049	0.012
DA	616.7	219.2	509.3	505.0	456.3	498.6	487.3	349.5	281.5	553.0	495.5	160.0	404.0	436.8	601.8	539.3	485.5	614.3	395.0	522.5	451.8	581.0	437.0	636.7	453.8	323.7	586.3		458.0	336.8
	8.3	3.4	7.4	4.8	7.4	9.6	9.9	4.2	15.4	4.8	1.0	20.0	6.5	3.1	7.5	3.5	4.0	7.4	12.6	13.9	1.8	6.2	10.3	4.3	15.0	21.7	11.7		4.9	9.1
	0.036	0.034	0.025	0.019	0.033	0.051	0.041	0.024	0.134	0.017	0.004	0.251	0.032	0.016	0.025	0.013	0.019	0.024	0.078	0.053	0.008	0.021	0.047	0.012	0.066	0.116	0.040	0.021	0.054	
VGlut3	12,264	10,644	13,735	13,533	12,079	13,850	11,925	11,242	10,786	11,575	14,735	13,270	11,368	12,139	11,317	12,286	12,282	13,182	13,860	11,798	13,234	11,875	14,012	14,857	13,471	11,692	12,371	13,846	10,415	11,203
	167	277	10.6	173	235	174	226	117	179	187	348	88	87	291	273	71	202	75	199	128	208	143	278	218	233	203	305	148	82	294
	0.036	0.058	0.002	0.031	0.039	0.025	0.038	0.021	0.029	0.032	0.047	0.013	0.015	0.048	0.048	0.012	0.033	0.011	0.029	0.022	0.031	0.024	0.040	0.025	0.035	0.030	0.049	0.021	0.016	0.045
ChAT INL	19,539	14,506	18,453	20,195	19,671	19,377	17,419	16,505	19,365	17,028	16,570	19,168	17,164	17,349	18,197	17,748	18,525	16,896	19,099	17,783	21,937	21,363	16,337	19,325	17,796	17,747	18,089		19,285	22,304
	216	120	311	200	281	207	279	534	478	523	233	450	774	435	359	250	634	476	261	254	356	644	273	756	144	422	223		460	118
	0.029	0.023	0.029	0.020	0.029	0.026	0.028	0.065	0.060	0.061	0.028	0.047	0.090	0.056	0.034	0.028	0.077	0.056	0.033	0.029	0.032	0.060	0.033	0.068	0.016	0.041	0.025		0.048	0.011
ChAT GCL	16,880	12,434	16,833	16,319	15,347	16,900	14,713	15,205	16,255	14,466	13,581	16,662	14,450	15,849	16,460	15,150	15,446	14,927	15,596	15,082	16,558	17,603	14,600	18,414	15,860	14,576	15,609		16,726	17,631
	232	105	26	470	457	94	277	250	314	379	467	341	352	315	613	303	439	284	216	360	363	222	142	603	303	85	371		241	395
	0.037	0.024	0.003	0.058	0.060	0.014	0.033	0.033	0.047	0.052	0.069	0.04																		