**Supplementary file 1.** (A) Cone numbers in different retinal areas along the dorsoventral axis in pigmented and albino mouse. Three images/area (dorsal, medial and ventral) from four retinas/strain. Different cone type quantifications are shown as average ± SD, corresponding to the percentages shown in Fig 1C. The total number of cones analyzed per location and strain are shown in the last column. Total number of cones (B) or S-cone Bipolar cells (SCBCs, C) in eight retinas/mouse strain or line (average ± SD, see also Figure 2B). Significant differences between strains *p*<0.05 (\*), *p*<0.01 (\*\*), *p*<0.001 (\*\*\*), *p*<0.0001 (\*\*\*\*).

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| --- |
| A. Cones per retinal area |
| Retinal location | Strain | **M+S+** | **M+S-** | **S+M-** | ***Total # of* cones** |
| Dorsal | Pigmented | 6.3 ± 10.5 | 205 ± 32.4 | 2.8 ± 1.9 | 2,568 |
| Albino | 189 ± 27.5\*\*\*\* | 14.8 ± 5.7\*\*\*\* | 2.5 ± 0.9 | 2,472 |
| Medial | Pigmented | 274 ± 53.7 | 0.1 ± 0.3 | 20.2 ± 6.7 | 3,208 |
| Albino | 213 ± 14.2\* | 0.9 ± 2.6 | 14.2 ± 7.8 | 2,731 |
| Ventral | Pigmented | 196.1 ± 26.2 | 0 ± 0 | 96.1 ± 14.6 | 3,506 |
| Albino | 195.8 ± 18 | 0 ± 0 | 79.8 ± 13\*\* | 3,307 |
| B. Total number of cone-type population |
| Strain | **All** | M+ | S+ | **M+S+** | **M+S-** | **S+M-** |
| Pigmented | 174,826± 6,647 | 154,617± 5,801 | 109,569± 4,654 | 94,926± 4,526 | 63,992± 4,823 | 18,608± 1,989 |
| Albino | 144,914\*\*\*± 4,354 | 129,586\*\*\*± 4,379 | 135,682\*\*\*± 5,137 | 122,063\*\*\*± 7,669 | 4,132\*\*\*± 932 | 14,366\*\*\*± 625 |
| C. Total number of Venus+S-cone Bipolar cells |
| Line | **Venus+SCBCs** |
| Cpne9-Venus | 11,100 ± 903 |