

**Supplementary Table S1.** Sensitivity analyses for the two primary FDR-surviving associations.

| Association              | Model                         | Biomarker effect              |                   |             |
|--------------------------|-------------------------------|-------------------------------|-------------------|-------------|
|                          |                               | Standardized $\beta$ (95% CI) | $p$               | Model $R^2$ |
| vSHRM → Composite        | Model 1: Primary multivariate | −0.366 (−0.573, −0.159)       | <b>0.001</b>      | 0.373       |
|                          | Model 2: + Injection count    | −0.344 (−0.560, −0.128)       | <b>0.003</b>      | 0.381       |
|                          | Model 3: Log-transformed      | −0.385 (−0.601, −0.169)       | <b>0.001</b>      | 0.389       |
|                          | vSHRM                         |                               |                   |             |
| avSHRM → Near Activities | Model 1: Primary multivariate | −0.370 (−0.561, −0.179)       | <b>&lt; 0.001</b> | 0.387       |
|                          | Model 2: + Injection count    | −0.372 (−0.565, −0.179)       | <b>&lt; 0.001</b> | 0.392       |
|                          | Model 3: Log-transformed      | −0.435 (−0.626, −0.244)       | <b>&lt; 0.001</b> | 0.405       |
|                          | avSHRM                        |                               |                   |             |

Model 1 (primary multivariate): adjusted for baseline study-eye BCVA, fellow-eye BCVA, age, sex, MNV type, and anti-VEGF agent. Model 2: Model 1 plus cumulative 2-year anti-VEGF injection count. Model 3: Model 1 with the biomarker volume replaced by its natural logarithm [ln(volume + 1)] to mitigate the influence of right-skewed extreme values. The outcome variable (VFQ-25 Composite or Near Activities score) was z-scored prior to modeling, so standardized  $\beta$  is directly comparable across rows. BCVA, best-corrected visual acuity; CI, confidence interval; MNV, macular neovascularization; SHRM, subretinal hyperreflective material (a, avascular; v, vascular).