**Supplemental Table 1. Summary of training accuracy results based on fundus photography**

| Trial 1. | Accuracy | Sensitivity | Specificity |
|---|---|---|---|
| *ABCA4* | - | 100% | 96% |
| *EYS* | - | 91% | 100% |
| *RP1L1* | - | 94% | 92% |
| Normal | - | 73% | 98% |
| Total | 89% | 90% | 96% |
| Trial 2. | Accuracy | Sensitivity | Specificity |
| *ABCA4* | - | 75% | 100% |
| *EYS* | - | 100% | 95% |
| *RP1L1* | - | 94% | 92% |
| Normal | - | 73% | 98% |
| Total | 88% | 100% | 100% |
| Trial 3. | Accuracy | Sensitivity | Specificity |
| *ABCA4* | - | 100% | 100% |
| *EYS* | - | 100% | 100% |
| *RP1L1* | - | 100% | 96% |
| Normal | - | 88% | 100% |
| Total | 97% | 97% | 99% |
| Trial 4. | Accuracy | Sensitivity | Specificity |
| *ABCA4* | - | 78% | 96% |
| *EYS* | - | 100% | 95% |
| *RP1L1* | - | 100% | 100% |
| Normal | - | 87% | 100% |
| Total | 94% | 91% | 98% |

Evaluations were conducted with a randomised 4-fold cross-validation method, and the accuracy of concordance (aimed >80%) between the genetic diagnosis and the machine diagnosis was calculated through the training to the fixed application program interface (API) for further testing.