WHAT IS CLAIMED IS:

1. A method for measuring isomerohydrolase activity comprising:
(a) contacting cells expressing Lecithin Retinol Acyltransferase (LRAT) with an adeno-associated viral (AAV) vector comprising a transgene encoding an isomerohydrolase protein under conditions allowing cell transduction;
(b) incubating transduced cells under conditions allowing expression of the encoded isomerohydrolase protein;
(c) collecting and lysing the transduced cells to produce an extract comprising the encoded isomerohydrolase protein;
(d) incubating said extract with a substrate for a period of time and under conditions allowing conversion of the substrate by the isomerohydrolase protein to a reaction product;
(e) subjecting said reaction product to column chromatography thereby producing a column chromatography purified reaction product; and
(f) subjecting said column chromatography purified reaction product to mass spectrometry thereby quantifying the reaction product, wherein the amount of the reaction product reflects isomerohydrolase activity thereby measuring isomerohydrolase activity.
2. The method of claim 1, wherein the isomerohydrolase protein comprises retinal pigment epithelium-specific protein, 65-KD (RPE65).
3. The method of claim 1, wherein the isomerohydrolase protein comprises wild-type retinal pigment epithelium-specific protein, 65-KD (RPE65).
4. The method of claim 1, wherein the isomerohydrolase protein comprises a variant or mutant retinal pigment epithelium-specific protein, 65-KD (RPE65).
5. The method of any of claims 1-4, wherein the isomerohydrolase protein comprises a mammalian retinal pigment epithelium-specific protein, 65-KD (RPE65).
6. The method of any of claims 1-5, wherein the isomerohydrolase protein comprises a human retinal pigment epithelium-specific protein, 65-KD (RPE65).
7. The method of any of claims 1-6, wherein the cells comprise mammalian cells.
8. The method of any of claims 1-7, wherein the cells comprise human cells.
9. The method of any of claims 1-8, wherein the cells comprise Human Embryonic Kidney (HEK) 293 cells.

10. The method of any of claims 1-9, wherein the cells express LRAT stably or transiently.
11. The method of any of claims 1-10, wherein the substrate comprises all-trans-retinyl ester.
12. The method of any of claims 1-11, wherein step (d) comprises adding a precursor of the substrate to the extract, wherein the precursor is converted to said substrate by the expressed LRAT.
13. The method of any of claims 1-12, wherein step (d) comprises adding cellular retinaldehyde binding protein (CRALBP) and a precursor of the substrate to the extract, wherein the precursor is converted to said substrate by the expressed LRAT.
14. The method of any of claims 12 or 13, wherein the precursor comprises or consists of all-trans retinol.
15. The method of any of claims 1-14, wherein the reaction product comprises or consists of 11-cis-retinol.
16. The method of any of claims 1-14, wherein step (d), (e) and/or (f) is performed in the dark, under dim light or under dim yellow light.
17. The method of any of claims 1-16, wherein the substrate, precursor or reaction product is non-radioactive.
18. The method of any of claims 1-17, wherein the period of time of step (d) is from about 30 minutes to about 240 minutes.
19. The method of any of claims 1-18, wherein after step (d) but before step (e) the reaction is stopped or quenched.
20. The method of any of claims 1-19, wherein step (d) further comprises extracting said reaction product.
21. The method of any of claims 1-20, wherein the adeno-associated viral (AAV) vector comprises a capsid protein sequence or inverted terminal repeat sequence having 70% or more sequence identity to a capsid protein sequence or to an inverted terminal repeat sequence of any serotype selected from AAV1, AAV2, AAV3, AAV4, AAV5, AAV6, AAV7, AAV8, AAV9, and AAV10.
22. The method of any of claims 1-21, wherein the (a) contacting cells is with an amount of about 500 to about 5 million AAV vector particles/cell.
23. The method of any of claims 1-21, wherein the (b) incubating the transduced cells is for a time period from about 6 hours to about 96 hours.

24. The method of any of claims 1-21, wherein the amount of total cellular protein produced after step (c) is determined.
25. The method of any of claims 1-21, wherein after collecting cells but prior to (c) lysing, the collected cells are resuspended in buffer.
26. The method of any of claims 1-21, wherein after (c) lysing the transduced cells to produce an extract the extract is diluted in buffer.
27. The method of claim 25 or 26, wherein the buffer is a salt buffer.
28. The method of any of claims 1-21, wherein said extract produced by step (c) comprises from about 10μg to about 2,000μg total cellular protein or is adjusted to be from about 10μg to about 2,000μg total protein.
29. The method of any of claims 1-21, wherein said (d) incubating is at a temperature from about 30 to about 40^{o} C.
30. The method of any of claims 1-21, wherein the column chromatography separates 11-cis-retinol from 9-cis-retinol and/or separates 11-cis-retinol from 13-cis-retinol.
31. The method of any of claims 1-21, wherein the column chromatography comprises reverse-phase chromatography.
32. The method of any of claims 1-21, wherein the column chromatography comprises a reverse-phase stationary phase.
33. The method of any of claims 1-32, wherein the method is linear from about $1x10^{4}$ to about $2x10^{6}$ AAV vector genomes per cell.