

**Supplemental Table S1.** Retinoic Acid and Ethanol Metabolism Gene Candidate List.

<b>Gene</b>	<b>Biological Role of Gene</b>
<i>ADH1B</i>	Converts ethanol to acetaldehyde and retinol to RA
<i>ADH1C</i>	Converts ethanol to acetaldehyde and retinol to RA
<i>ADH4</i>	Converts ethanol to acetaldehyde and retinol to RA
<i>ADH7</i>	Converts ethanol to acetaldehyde and retinol to RA
<i>ADHFE1</i>	Converts ethanol to acetaldehyde and retinol to RA
<i>ALDH1/1</i>	Acetaldehyde to acetic acid and retinaldehyde to RA
<i>ALDH1/2</i>	Acetaldehyde to acetic acid and retinaldehyde to RA
<i>ALDH2A1</i>	Acetaldehyde to acetic acid and retinaldehyde to RA
<i>ALDH2A2</i>	Acetaldehyde to acetic acid and retinaldehyde to RA
<i>ALDHA3</i>	Acetaldehyde to acetic acid and retinaldehyde to RA
<i>BCO1</i>	Cleaves $\beta$ -carotene to form two retinal molecules
<i>BCO2</i>	Cleaves $\beta$ -carotene to form apocarotenoids
<i>BCO2L</i>	Cleaves $\beta$ -carotene to form apocarotenoids
<i>CES3</i>	Esterification of retinyl esters
<i>CRAB1</i>	Transports retinoic acid in the cell
<i>CRAB2</i>	Transports retinoic acid in the cell
<i>CRBP</i>	Mediates both retinol esterification to retinyl esters and retinol oxidation to retinal and retinoic acid.
<i>CYP26A1</i>	Degradation of retinoic acid
<i>CYP26B1</i>	Degradation of retinoic acid
<i>CYP26C1</i>	Degradation of retinoic acid
<i>DGAT1</i>	Esterification of retinol esters
<i>DHRS3</i>	Reduction of retinaldehyde to retinol
<i>DHRS9</i>	Reduction of retinaldehyde to retinol
<i>FABP3</i>	Mobilization of retinoic acid
<i>FABP4</i>	Mobilization of retinoic acid
<i>LIPC</i>	Mobilization of retinoic acid
<i>LRAT</i>	Creates retinyl esters
<i>NCOR1</i>	Represses retinoic acid mediated transcription
<i>NCOR2</i>	Represses retinoic acid mediated transcription
<i>PNLIP</i>	Creates retinol from retinyl esters
<i>PNPLA4</i>	Creates retinol from retinyl esters
<i>RARA</i>	Retinoic acid mediated transcription factor
<i>RARB</i>	Retinoic acid mediated transcription factor
<i>RARG</i>	Retinoic acid mediated transcription factor
<i>RBP4</i>	Transport of retinol
<i>RDH11</i>	Transport of retinol
<i>RDH13</i>	Transport of retinol
<i>RDH14</i>	Transport of retinol
<i>RDH16</i>	Transport of retinol
<i>RDH5</i>	Retinoic acid mediated transcription factor
<i>RXRA</i>	Retinoic acid mediated transcription factor
<i>RXRB</i>	Retinoic acid mediated transcription factor

<i>RXR<math>\alpha</math></i>	Retinoic acid mediated transcription factor
<i>SCARB1</i>	Creates retinaldehyde from $\beta$ -carotene
<i>SDR16C5</i>	Converts retinol into retinaldehyde
<i>STRA6</i>	Transports retinol into the cell

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