PATHWAY RESULTS FROM INGENUITY PATHWAY ANALYSIS

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# OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC

## dd7

### Overall statistic

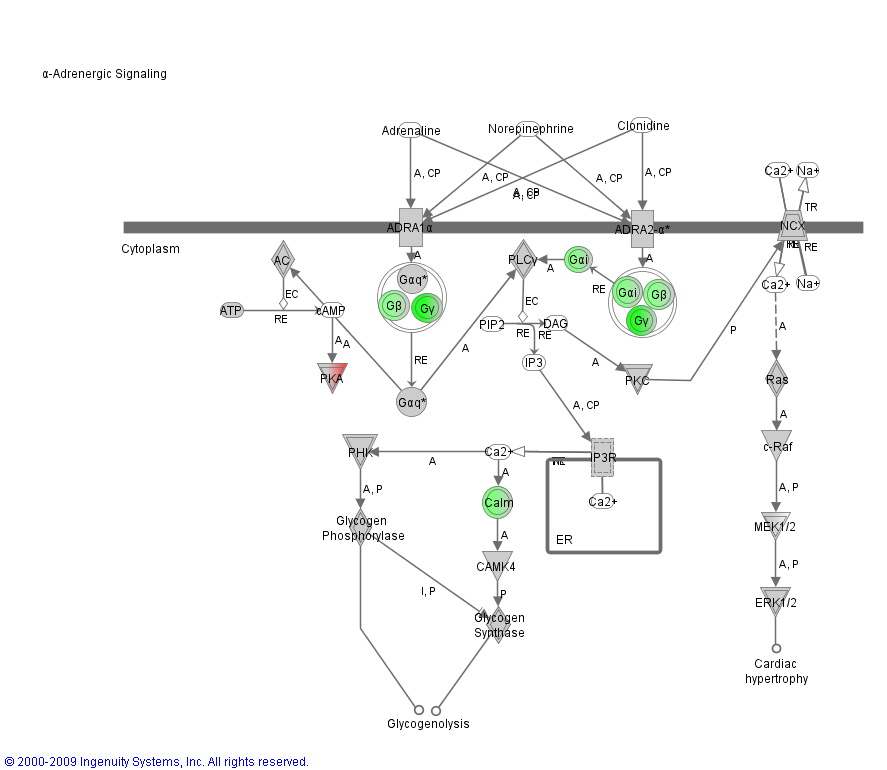
|  |  |  |  |
| --- | --- | --- | --- |
| Ingenuity Canonical Pathways | -Log(P-value) | -Log(B-H P-value) | Ratio |
| CCR5 Signaling in Macrophages | 4.29 | 2.21 | 0.0706 |
| Α-Adrenergic Signaling | 3.79 | 2.02 | 0.0686 |
| Relaxin Signaling | 3.54 | 1.94 | 0.0515 |
| Cardiac Hypertrophy Signaling | 2.76 | 1.37 | 0.0364 |
| IL-8 Signaling | 2.67 | 1.37 | 0.0391 |
| Lysine Degradation | 2.36 | 1.14 | 0.0286 |
| Glutamate Receptor Signaling | 2.28 | 1.14 | 0.0476 |
| Cardiac β-adrenergic Signaling | 2.27 | 1.14 | 0.0394 |
| CXCR4 Signaling | 2.18 | 1.12 | 0.0373 |
| CCR3 Signaling in Eosinophils | 2.11 | 1.12 | 0.0435 |
| fMLP Signaling in Neutrophils | 2.09 | 1.12 | 0.0400 |
| Melatonin Signaling | 2.09 | 1.12 | 0.0526 |
| G-Protein Coupled Receptor Signaling | 2.03 | 1.12 | 0.0294 |
| Nitric Oxide Signaling in the Cardiovascular System | 2.03 | 1.12 | 0.0476 |
| cAMP-mediated Signaling | 1.88 | 1.00 | 0.0325 |
| LPS/IL-1 Mediated Inhibition of RXR Function | 1.83 | 0.99 | 0.0266 |
| Cellular Effects of Sildenafil (Viagra) | 1.73 | 0.92 | 0.0308 |
| CDK5 Signaling | 1.71 | 0.92 | 0.0455 |
| Role of NFAT in Regulation of the Immune Response | 1.57 | 0.80 | 0.0272 |
| Sonic Hedgehog Signaling | 1.55 | 0.80 | 0.069 |
| PXR/RXR Activation | 1.54 | 0.80 | 0.0357 |
| PPARÎ±/RXRÎ± Activation | 1.41 | 0.70 | 0.0276 |
| Pyrimidine Metabolism | 1.40 | 0.70 | 0.0177 |
| Thrombin Signaling | 1.34 | 0.69 | 0.0259 |
| Xenobiotic Metabolism Signaling | 1.34 | 0.69 | 0.0206 |
| Ephrin Receptor Signaling | 1.33 | 0.69 | 0.0270 |

**OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC**

**dd7**

Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively

### α-adrenergic signaling

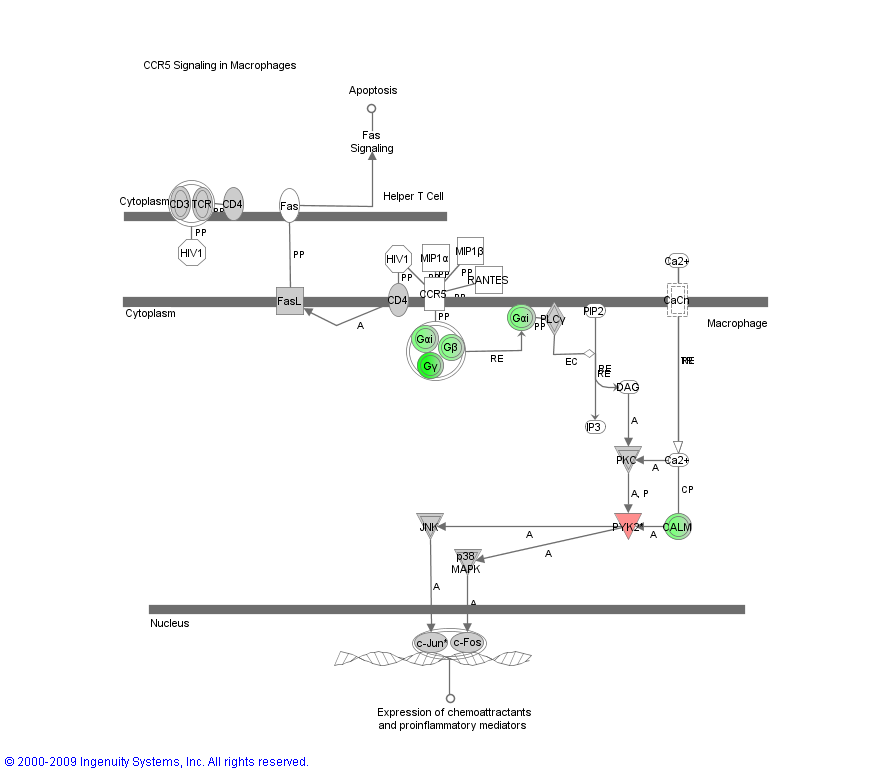


**OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC**

**dd7**

Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively

### CCR5 signaling in Macrophages

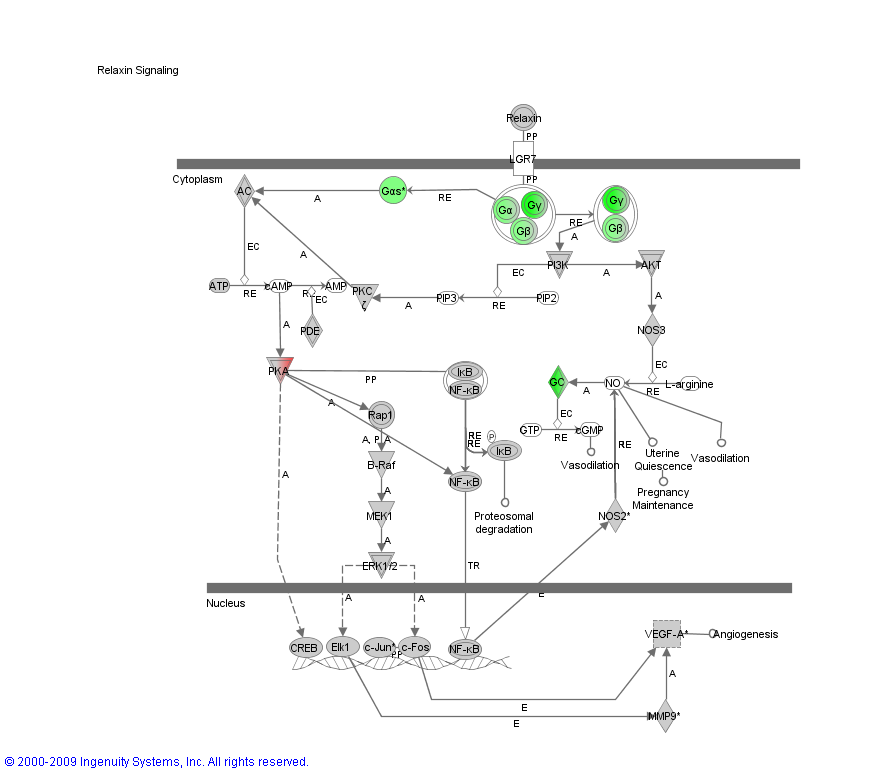


**OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC**

**dd7**

Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively

### Relaxin signaling



# OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC

## dd21

### Overall statistic

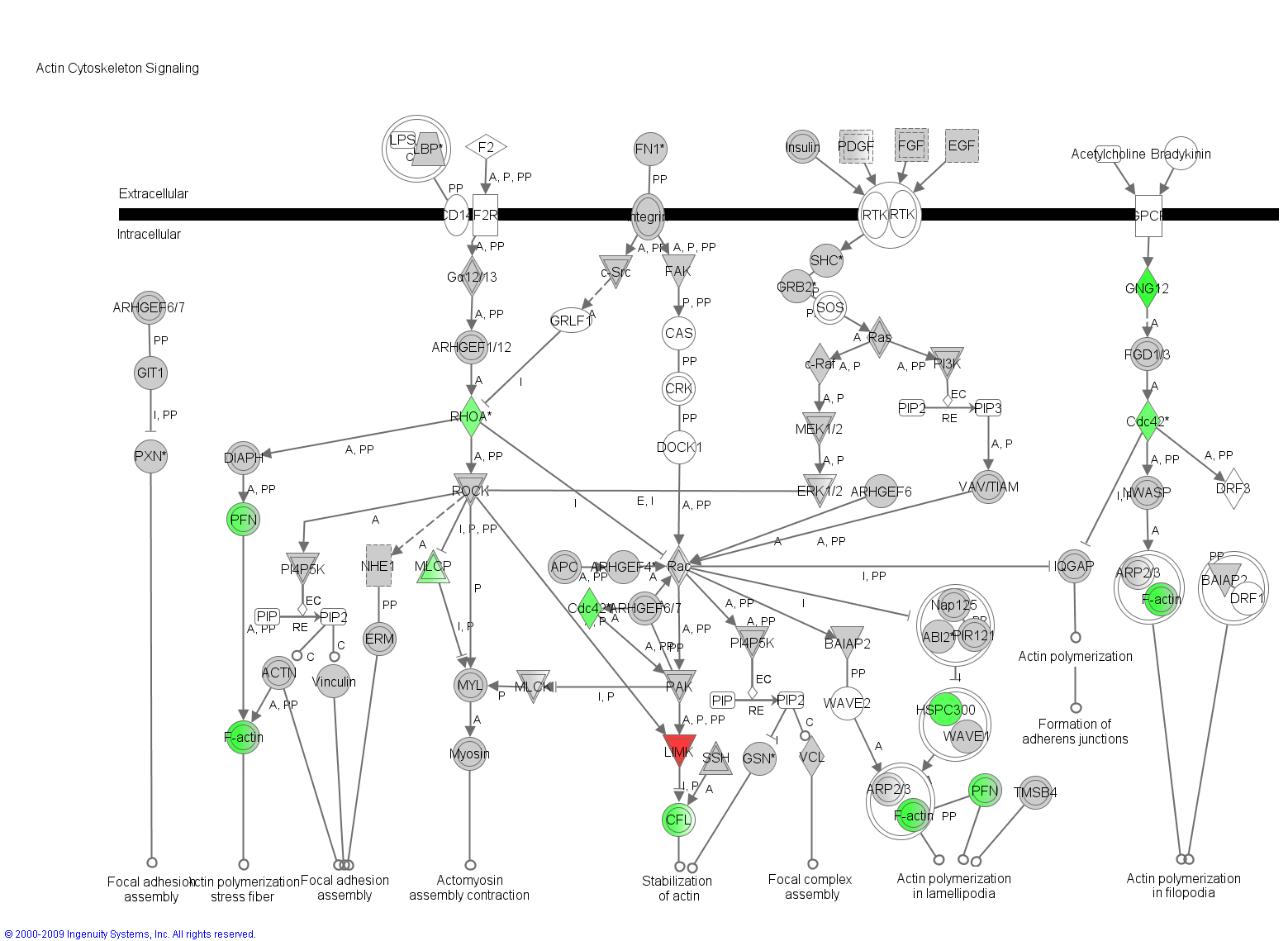
|  |  |  |  |
| --- | --- | --- | --- |
| Pathways | -Log(P-value) | -Log(B-H P-value) | Ratio |
| CCR3 Signaling in Eosinophils | 4.41 | 2.23 | 0.09 |
| Chemokine Signaling | 4.04 | 2.16 | 0.11 |
| LPS/IL-1 Mediated Inhibition of RXR Function | 3.84 | 2.14 | 0.05 |
| Regulation of Actin-based Motility by Rho | 3.59 | 2.07 | 0.09 |
| Glutamate Receptor Signaling | 3.55 | 2.07 | 0.08 |
| CCR5 Signaling in Macrophages | 3.08 | 1.72 | 0.07 |
| Actin Cytoskeleton Signaling | 3.05 | 1.72 | 0.05 |
| fMLP Signaling in Neutrophils | 2.96 | 1.68 | 0.06 |
| Ephrin Receptor Signaling | 2.79 | 1.61 | 0.05 |
| Axonal Guidance Signaling | 2.68 | 1.56 | 0.04 |
| Fatty Acid Biosynthesis | 2.66 | 1.56 | 0.06 |
| α-Adrenergic Signaling | 2.49 | 1.42 | 0.07 |
| Role of NFAT in Regulation of the Immune Response | 2.15 | 1.14 | 0.04 |
| NRF2-mediated Oxidative Stress Response | 2.06 | 1.09 | 0.04 |
| Melatonin Signaling | 1.98 | 1.06 | 0.07 |
| IL-8 Signaling | 1.98 | 1.06 | 0.04 |
| Thrombin Signaling | 1.79 | 0.89 | 0.04 |
| Glycerophospholipid Metabolism | 1.71 | 0.83 | 0.03 |
| CXCR4 Signaling | 1.66 | 0.81 | 0.04 |
| Semaphorin Signaling in Neurons | 1.60 | 0.79 | 0.08 |
| Valine, Leucine and Isoleucine Degradation | 1.60 | 0.79 | 0.04 |
| Tight Junction Signaling | 1.58 | 0.79 | 0.04 |
| Virus Entry via Endocytic Pathways | 1.57 | 0.79 | 0.05 |
| LXR/RXR Activation | 1.53 | 0.77 | 0.05 |
| Cardiac β-adrenergic Signaling | 1.40 | 0.65 | 0.04 |
| Aryl Hydrocarbon Receptor Signaling | 1.33 | 0.59 | 0.04 |

**OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC**

**dd21**

Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively

### Actin cytoskeleton signaling

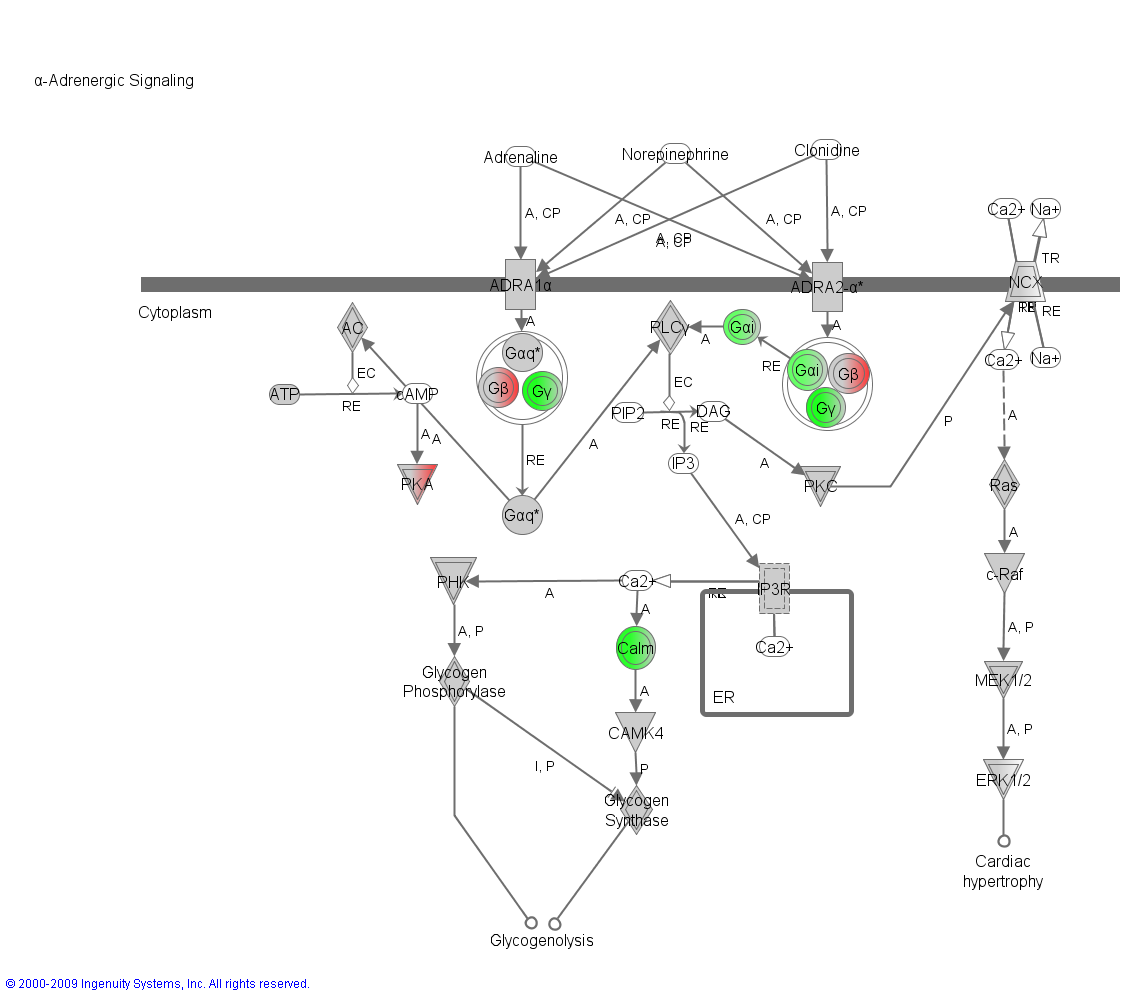


**OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC**

**dd21**

Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively

### α adrenergic signaling



**OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC**

**dd21**

Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively

### Axonal guidance signaling

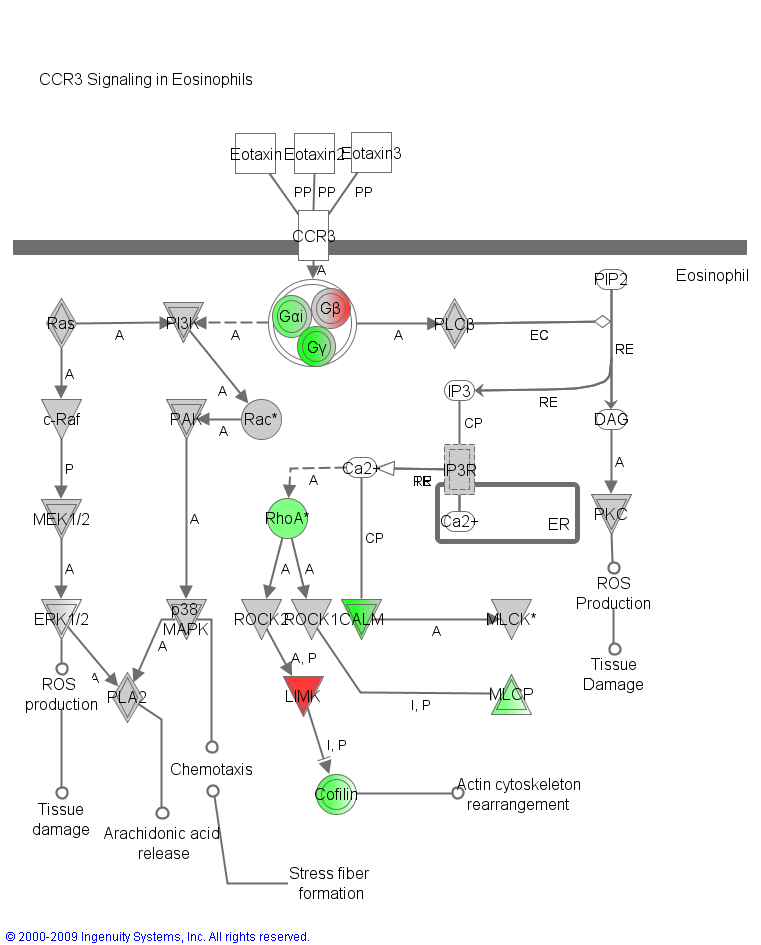


**OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC**

**dd21**

Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively

### CCR3 signaling in Eosinophil

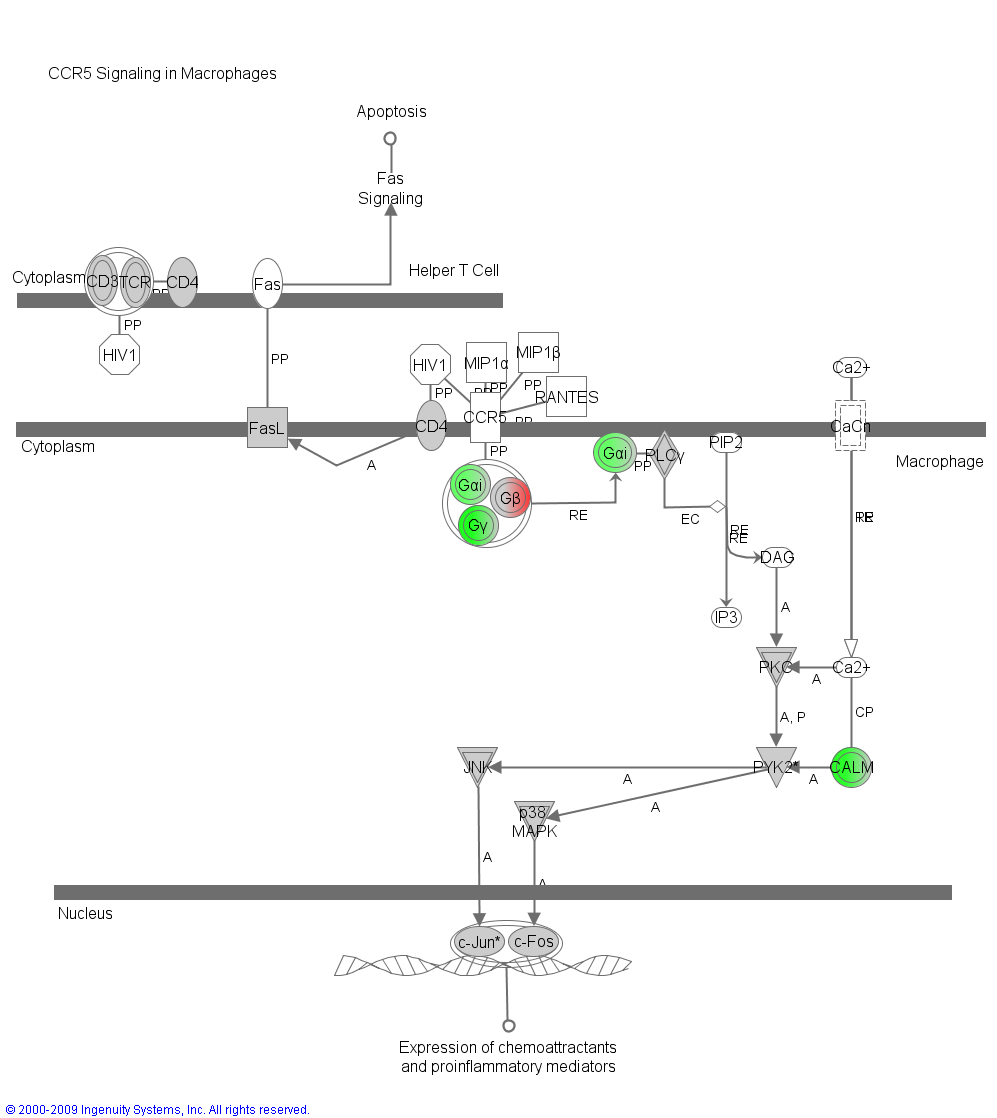


**OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC**

**dd21**

Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively

### CCR5 signaling in Macrophages

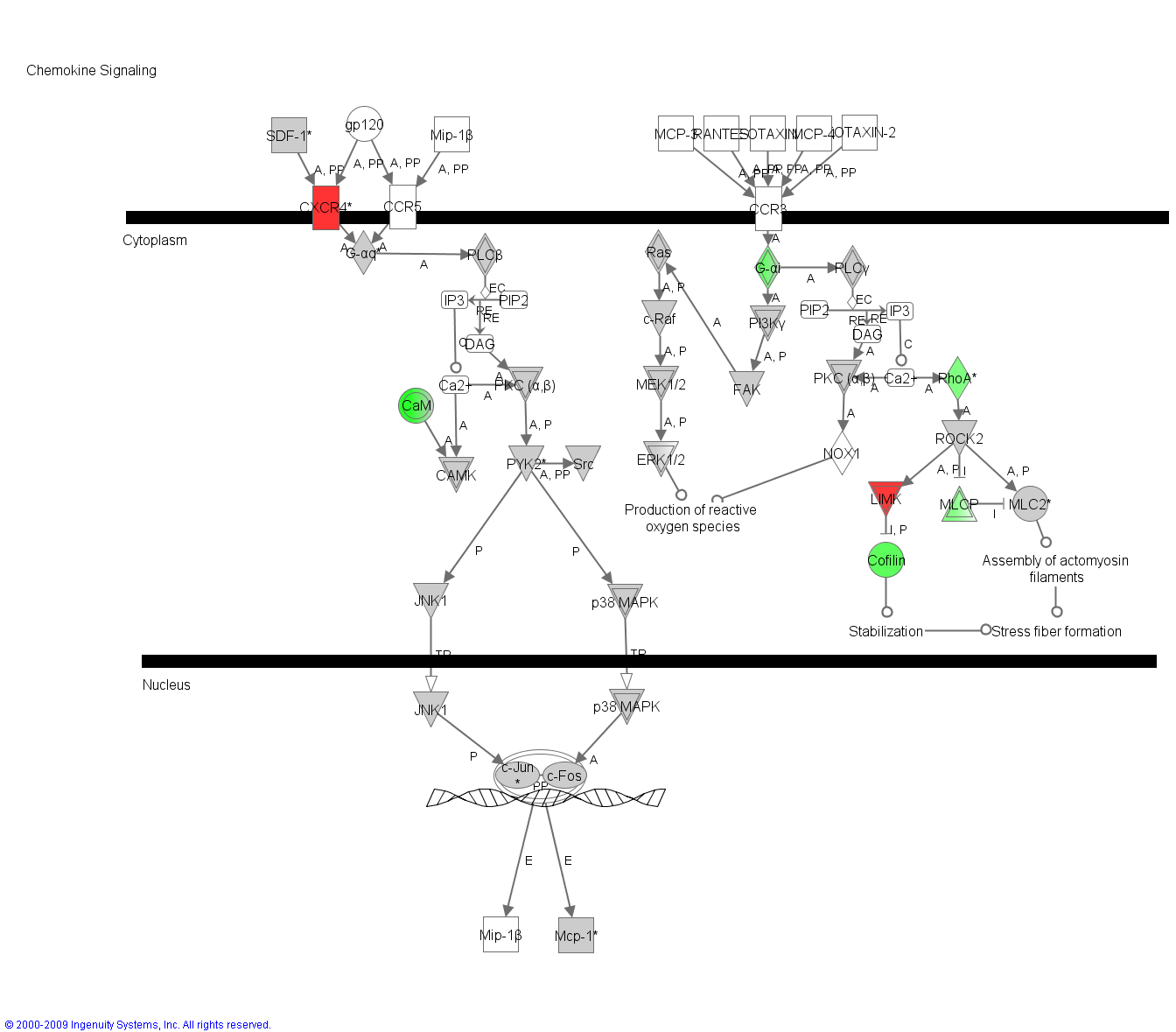


**OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC**

**dd21**

Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively

### Chemokine signaling

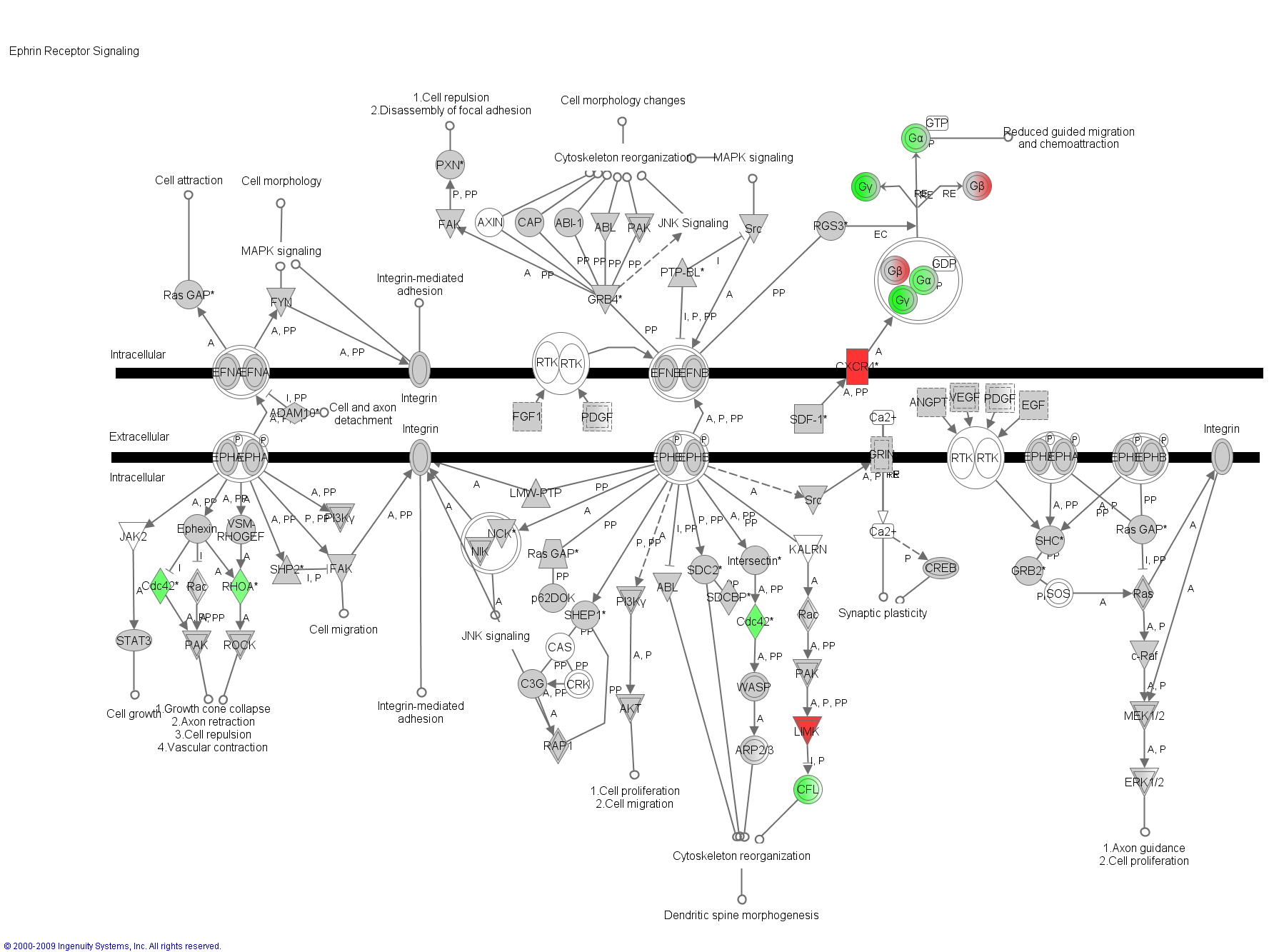


**OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC**

**dd21**

Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively

### Ephrin receptor signaling

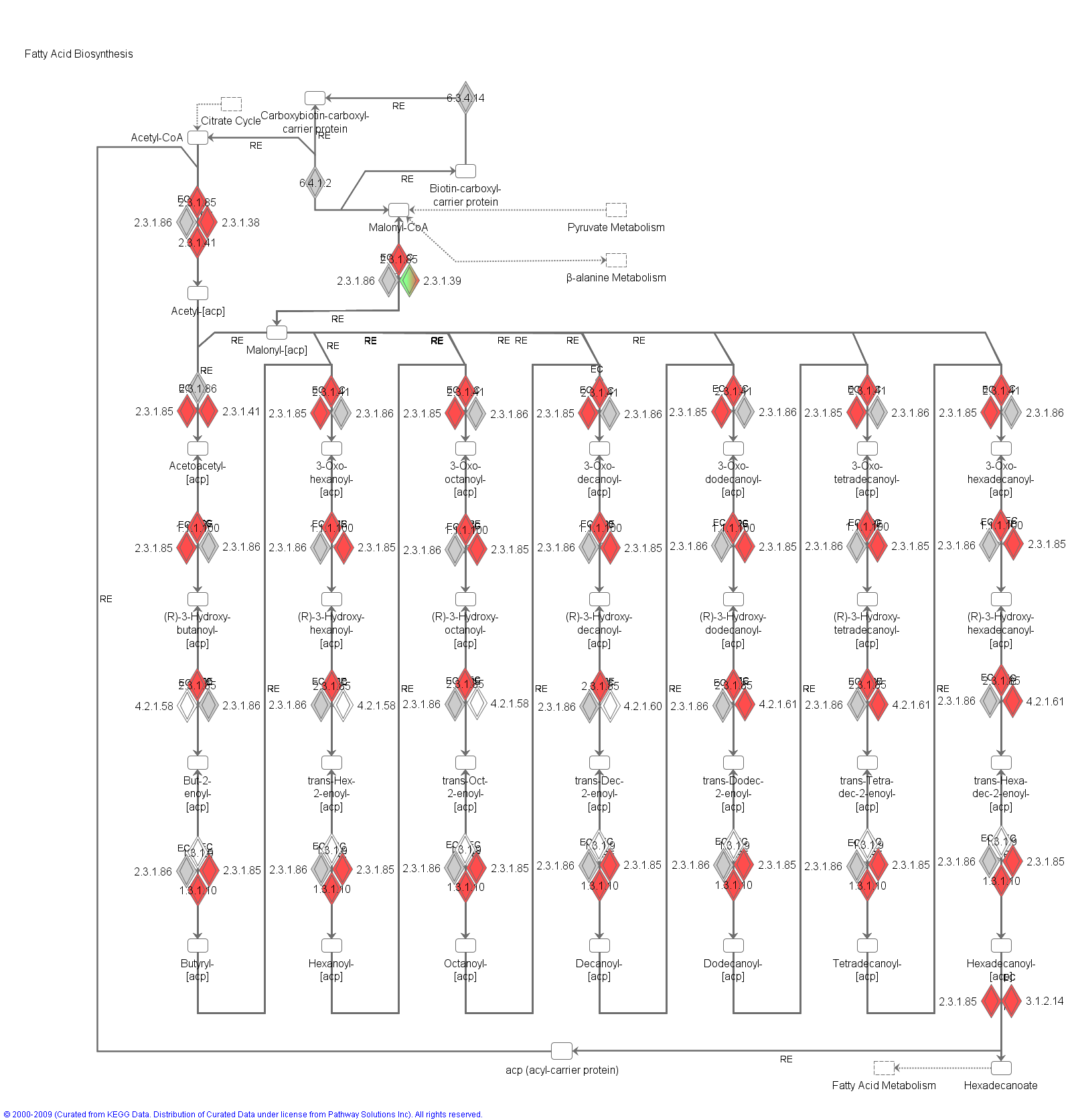


**OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC**

**dd21**

Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively

### Fatty acid biosynthesis

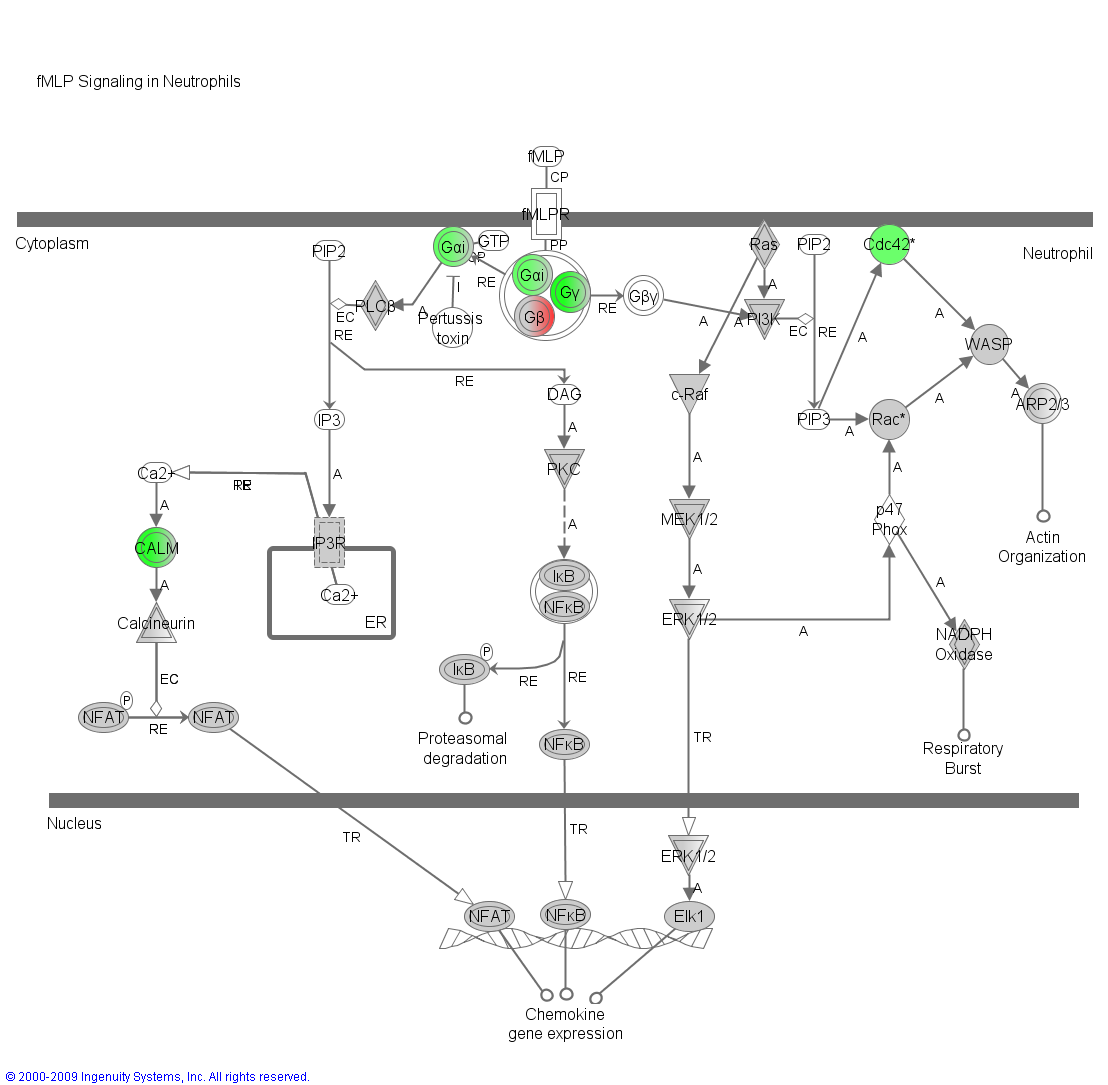


**OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC**

**dd21**

Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively

### fMLP signaling in Neutrophils

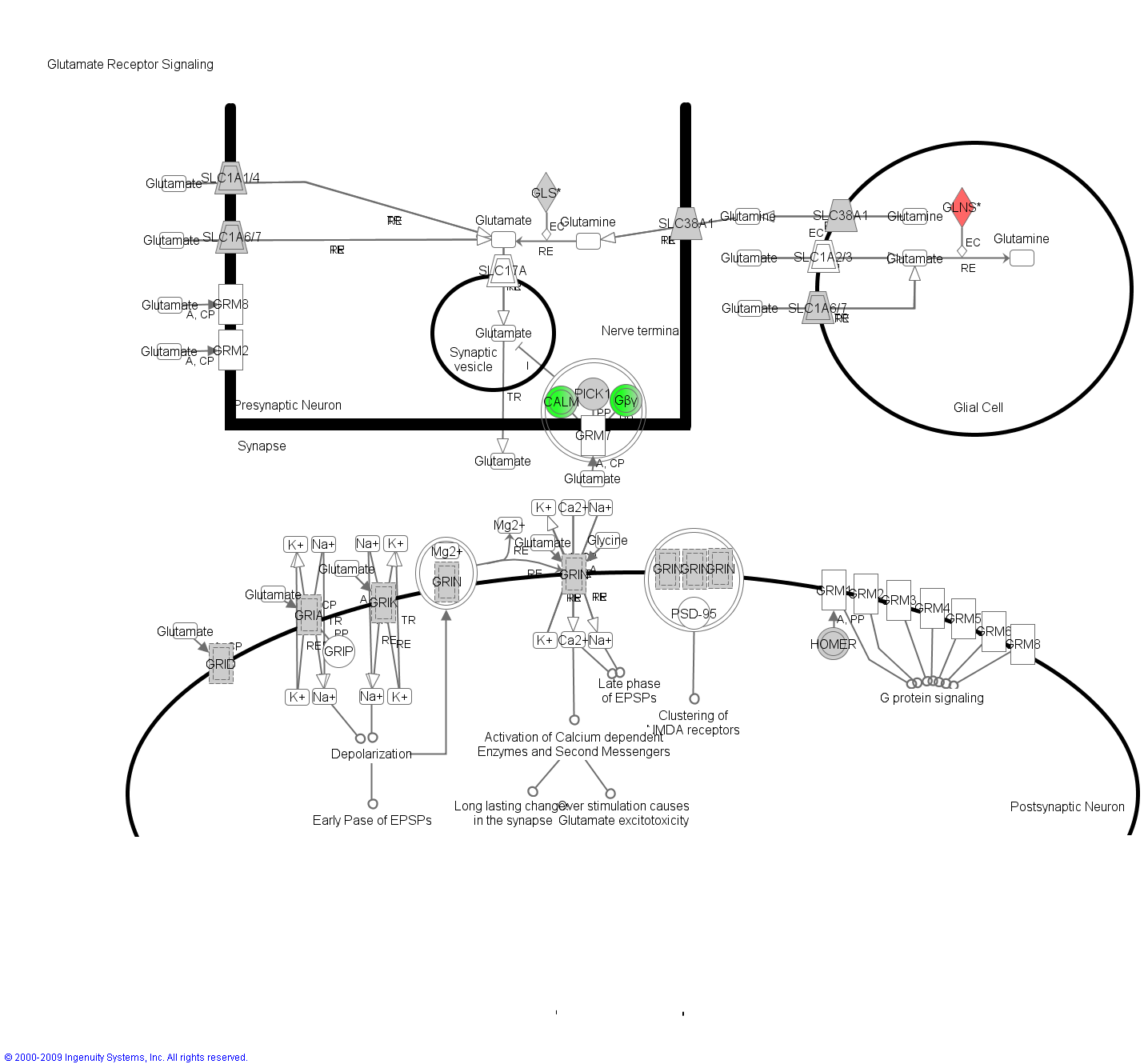


**OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC**

**dd21**

Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively

### Glutamate receptor signaling

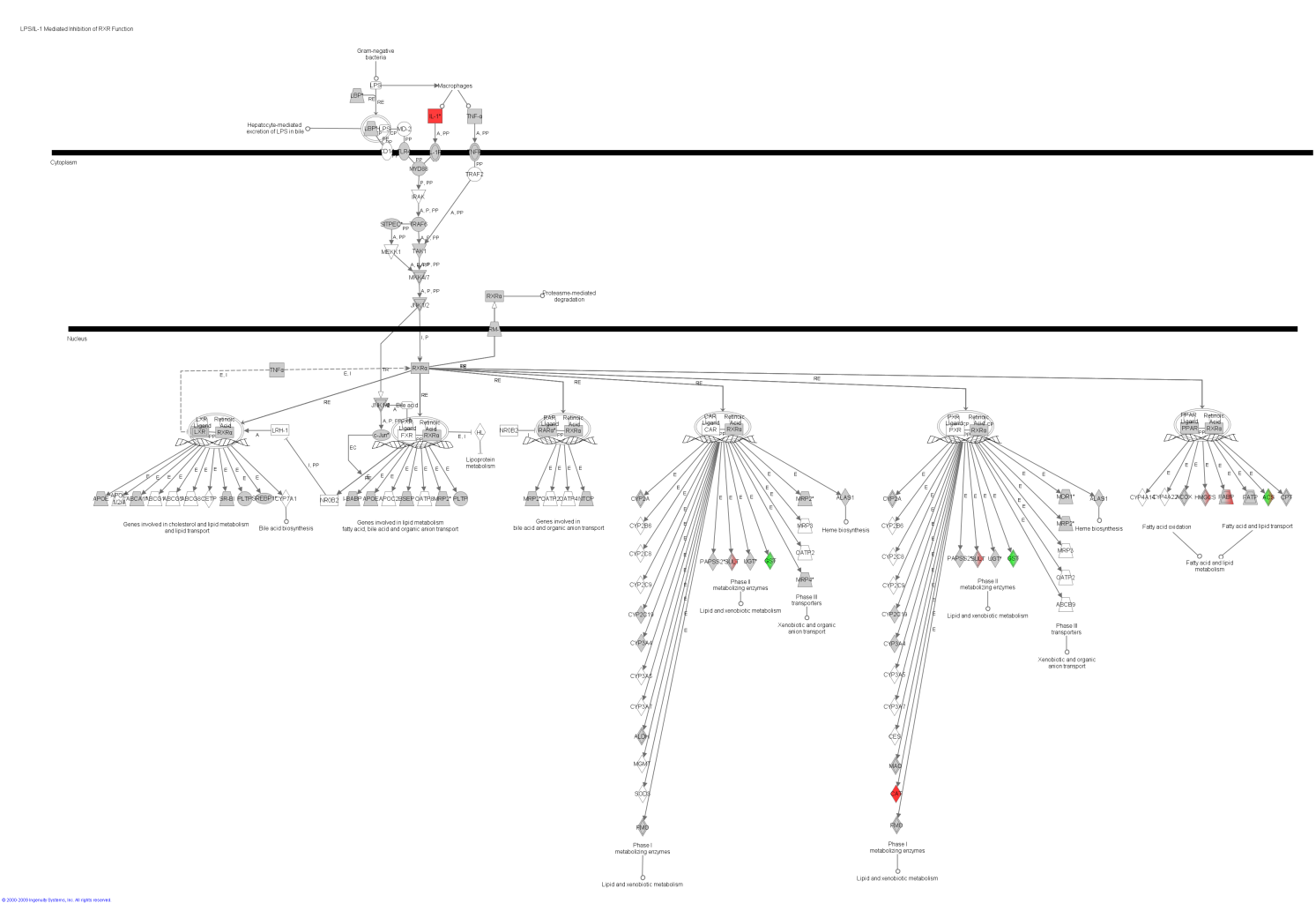


**OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC**

**dd21**

Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively

### LPS/IL-1 Mediated Inhibition of RXR Function

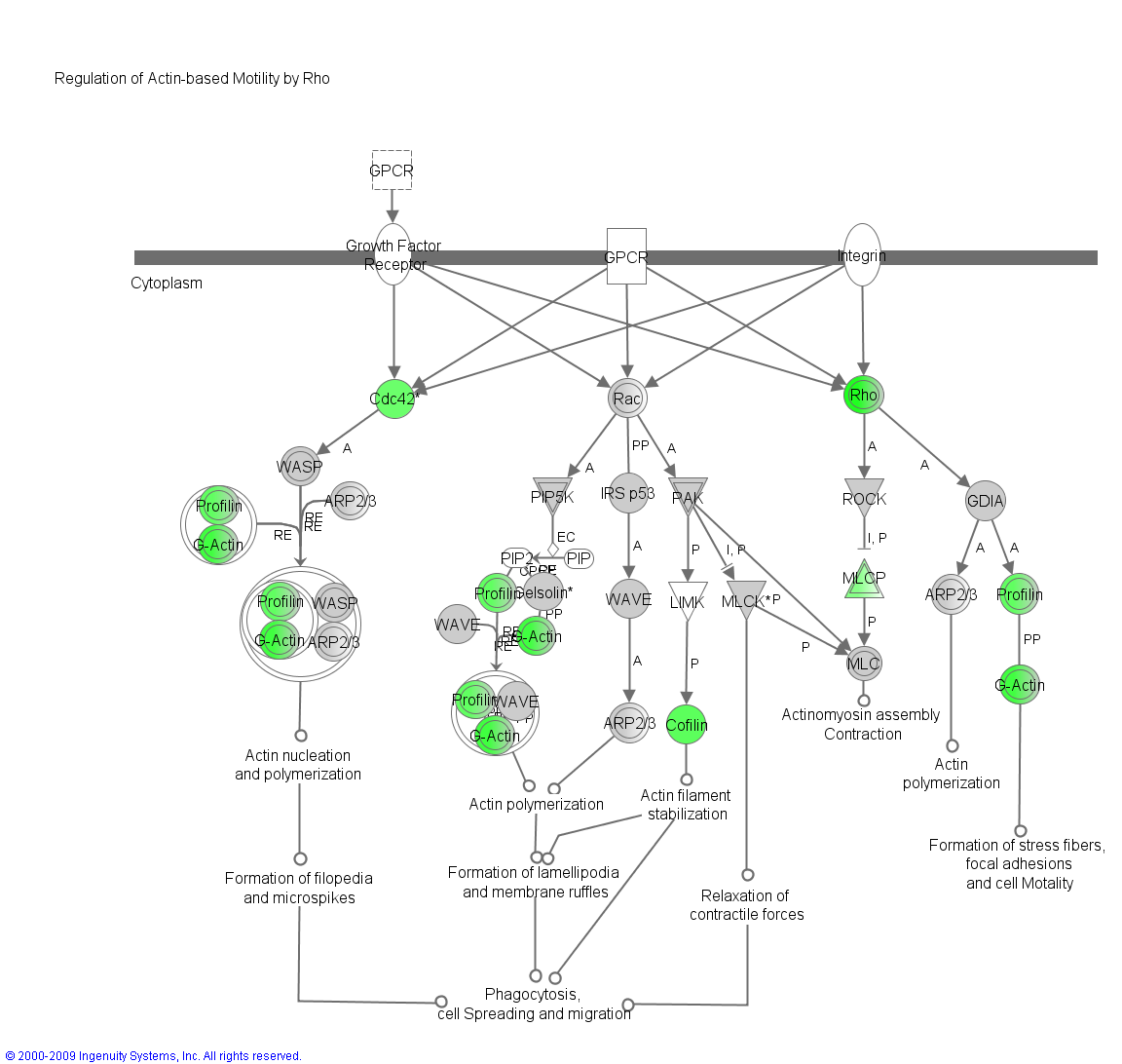


**OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC**

**dd21**

Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively

### Regulation of Actin-based Motility by Rho

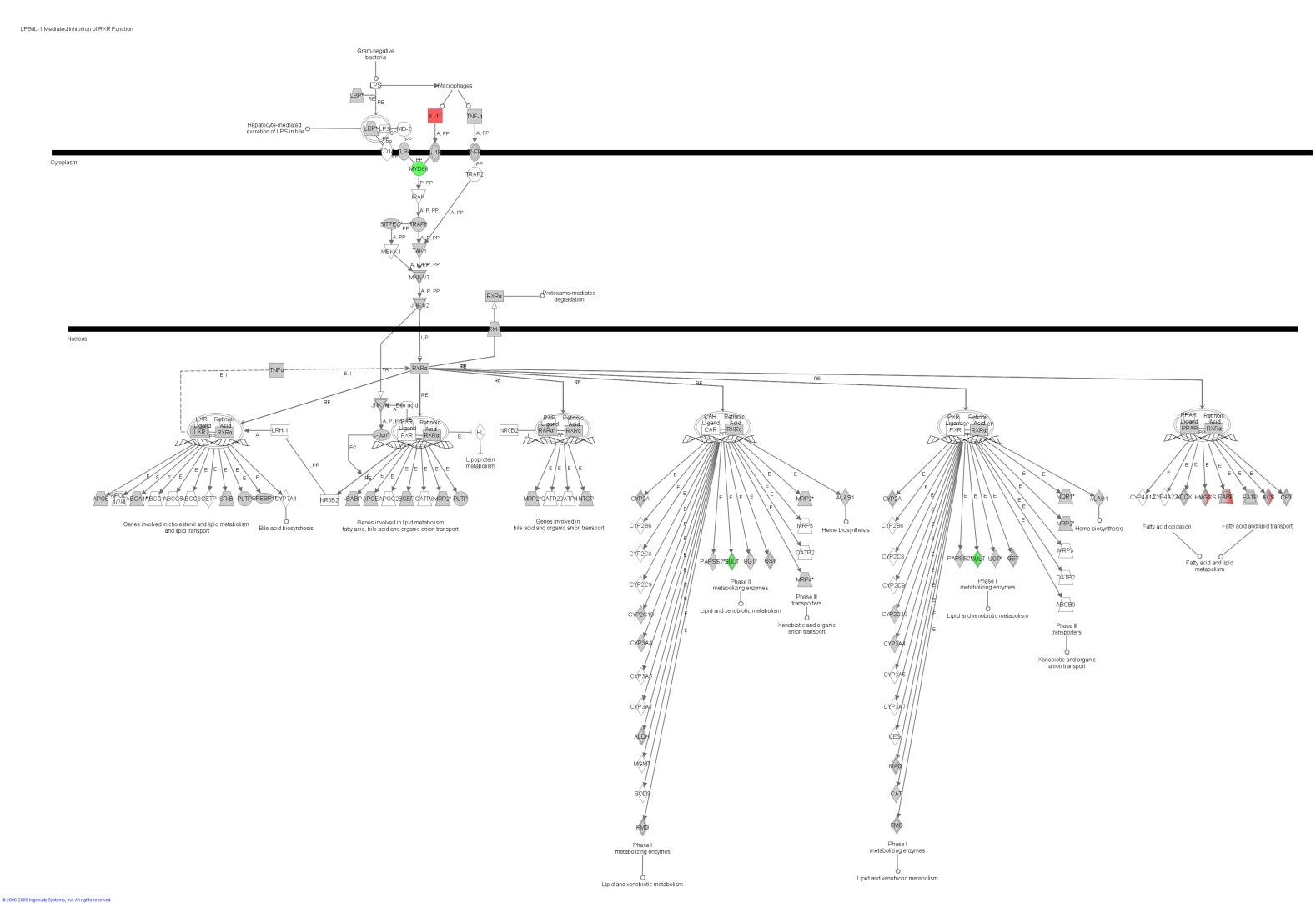


# OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN BMSC

## dd21

Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively

### LPS/IL-1 Mediated Inhibition of RXR Function

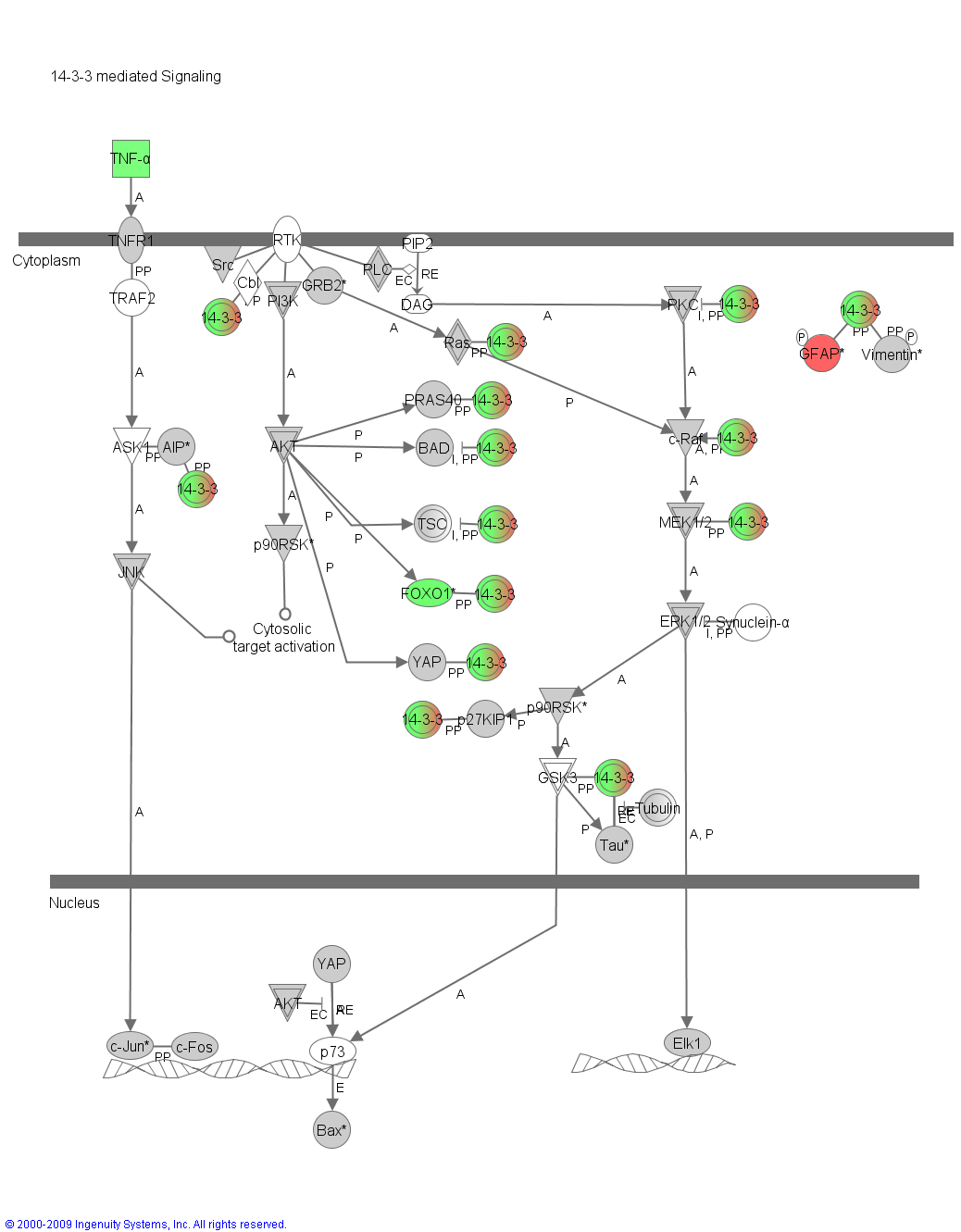


# BMSC vs. ASC DURING OSTEOGENIC DIFFERENTIATION

## dd2

Red and green shade in objects denote higher expression in BMSC and ASC, respectively

### 14-3-3 mediated signaling

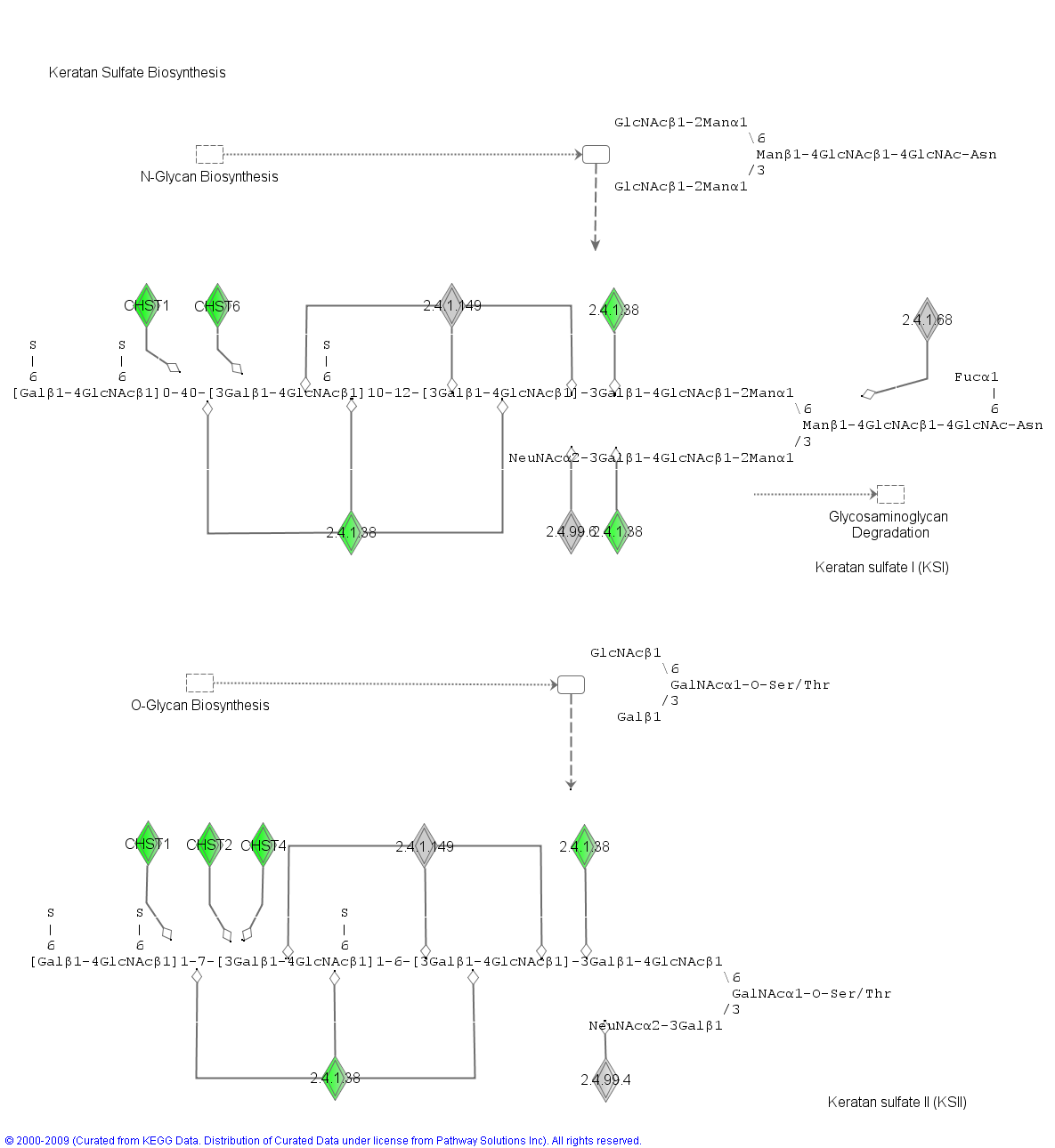
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**BMSC vs. ASC DURING ADIPOGENIC DIFFERENTIATION**

## dd21

Red and green shade in objects denote higher expression in BMSC and ASC, respectively

### Keratan sulfate biosynthesis

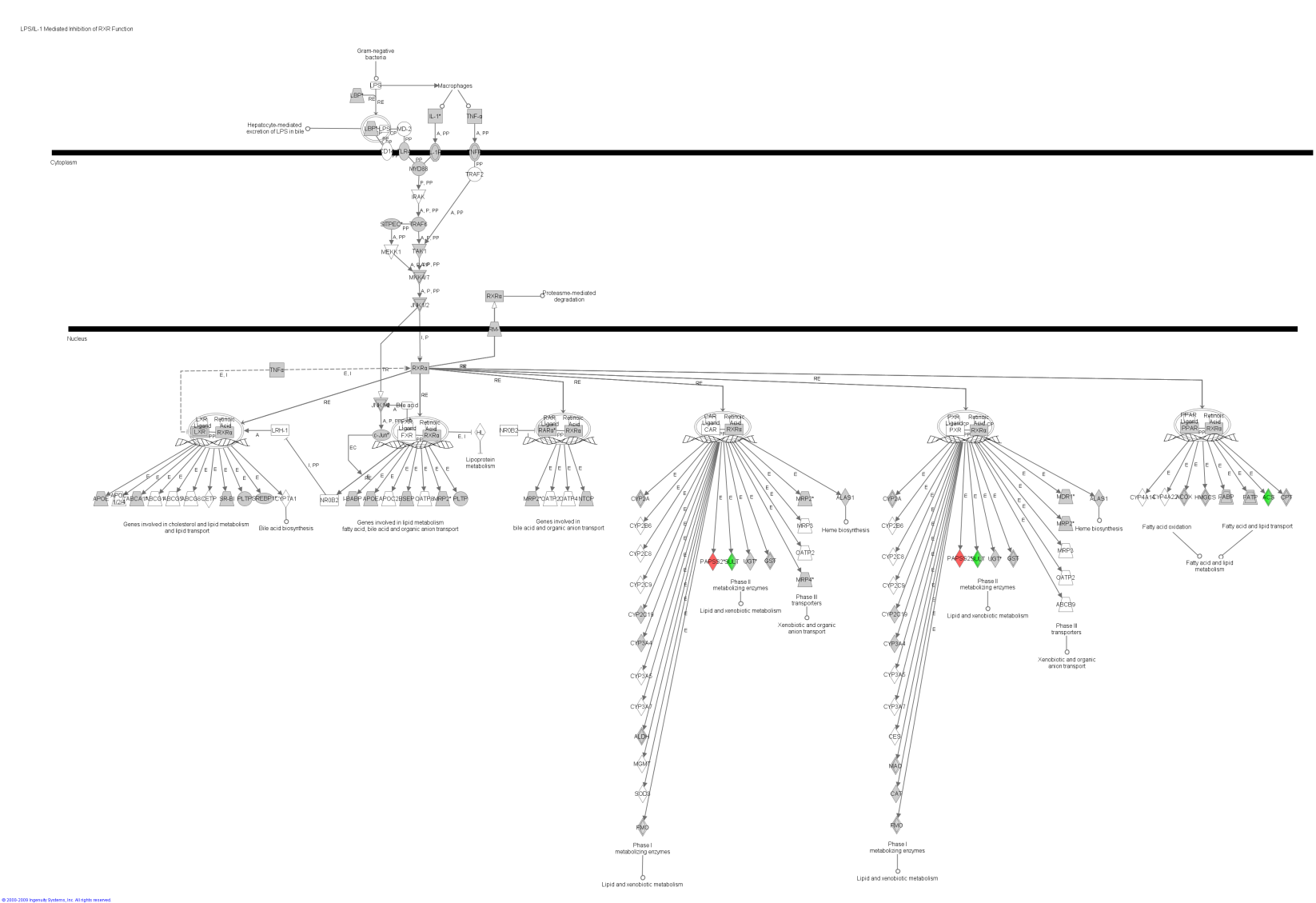
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**BMSC vs. ASC DURING ADIPOGENIC DIFFERENTIATION**

**dd21**

Red and green shade in objects denote higher expression in BMSC and ASC, respectively

### LPS/IL-1 Mediated Inhibition of RXR Function

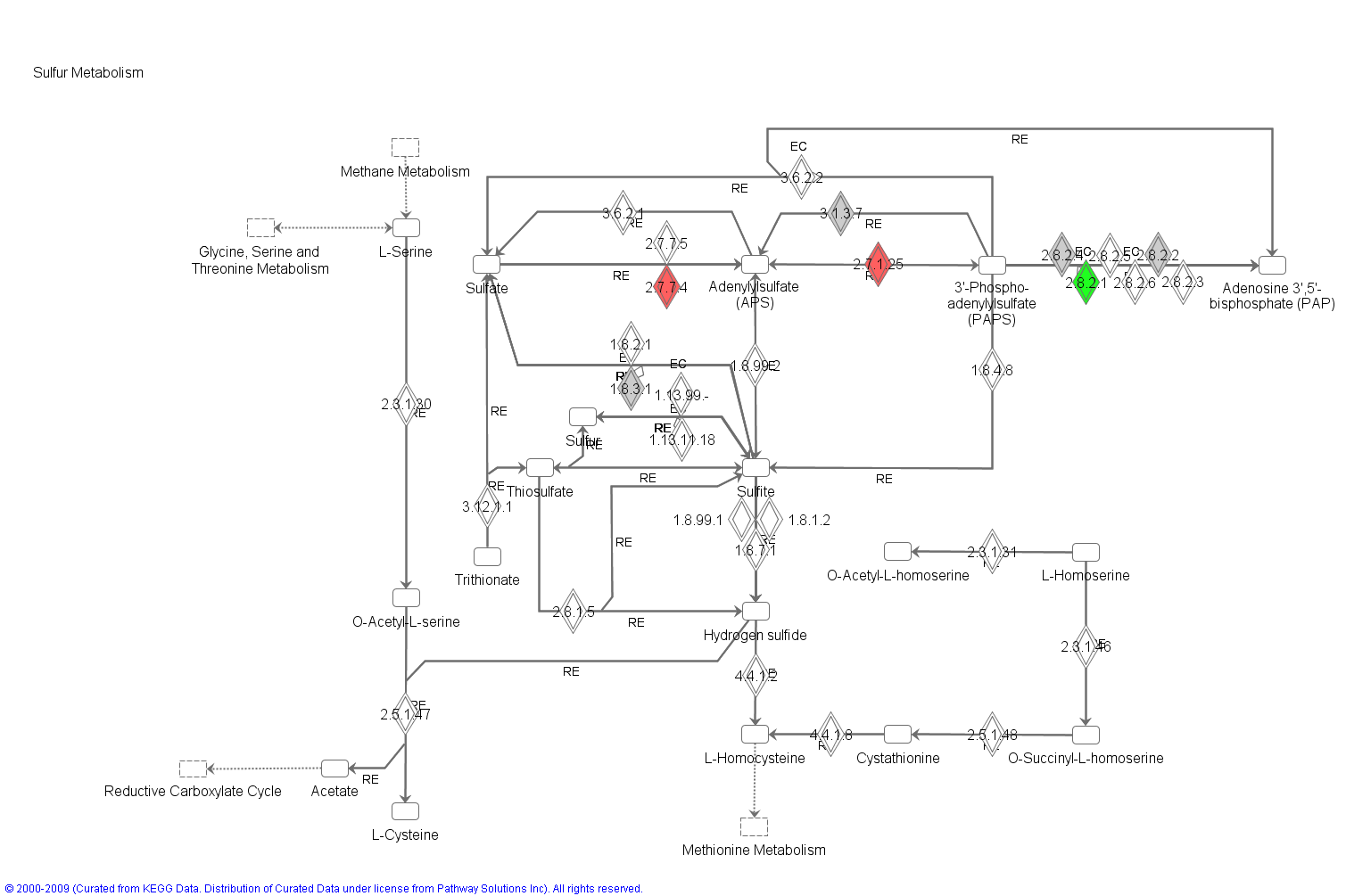


**BMSC vs. ASC DURING ADIPOGENIC DIFFERENTIATION**

**dd21**

Red and green shade in objects denote higher expression in BMSC and ASC, respectively

### Sulfur metabolism



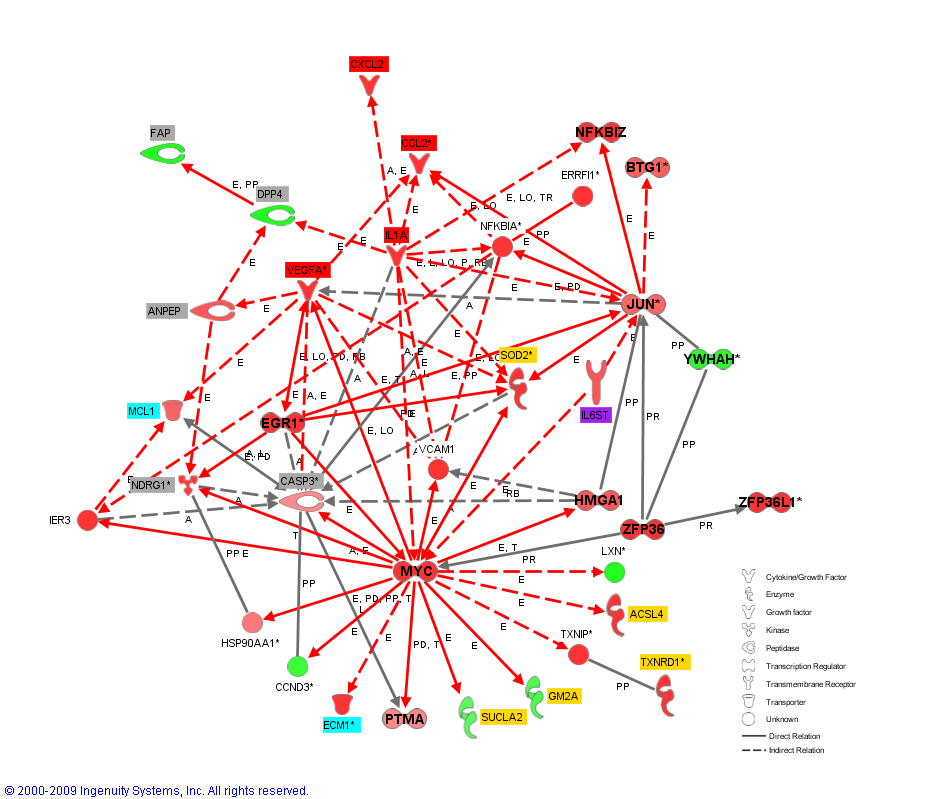
# NETWORK AMONG DEG

**(from ingenuity pathway analysis)**

## OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC

### dd2

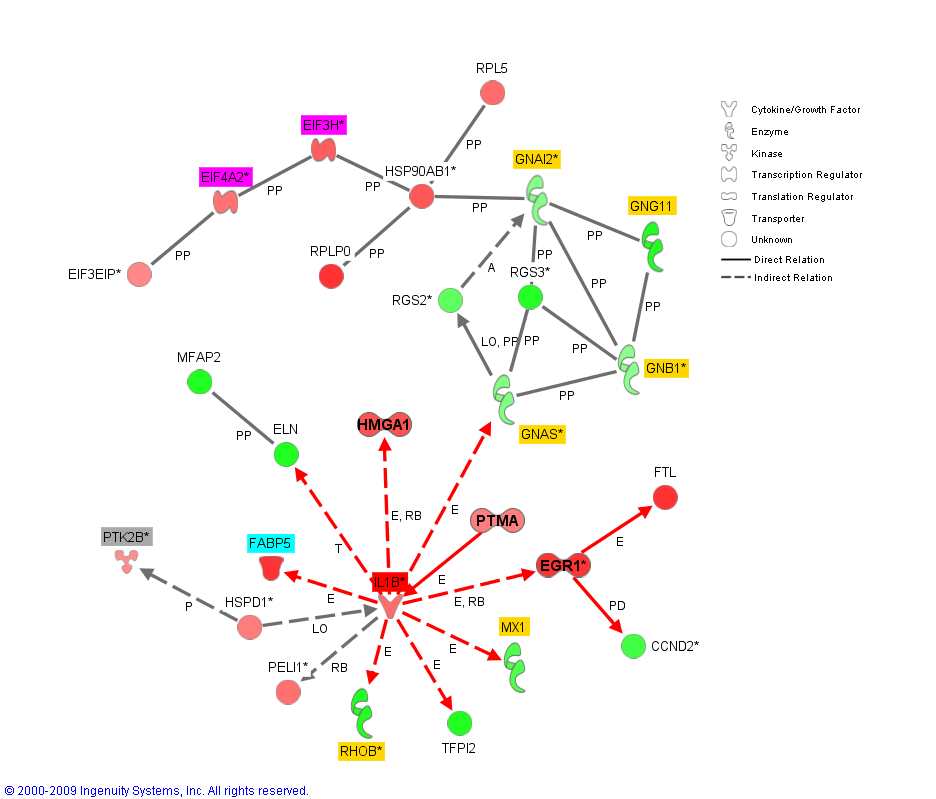
Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively

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**OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC**

### dd7

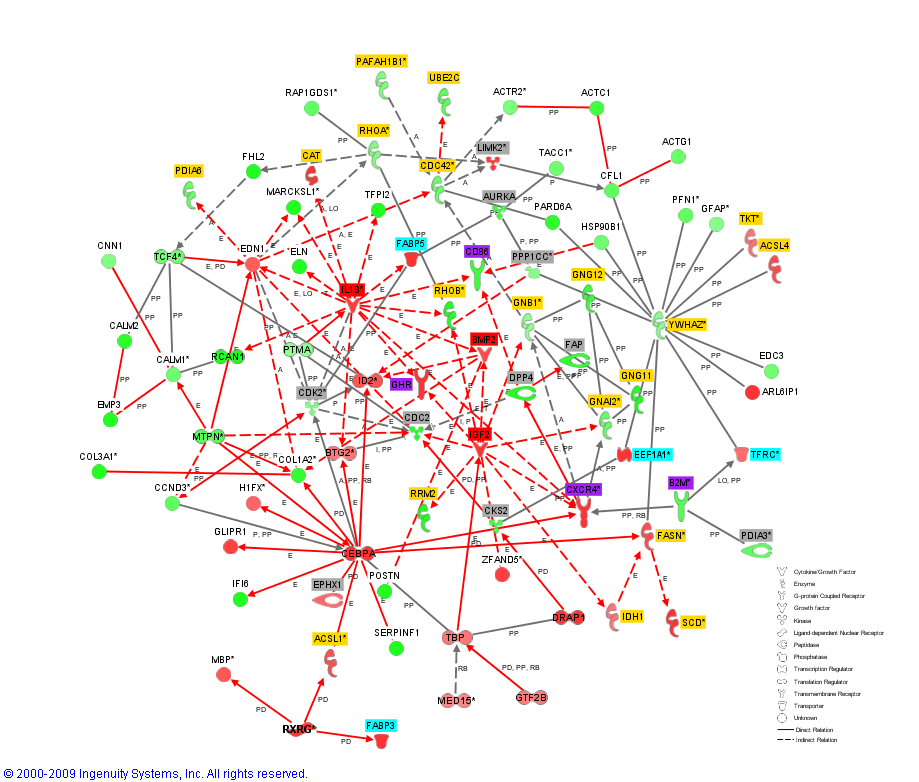
Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively



**OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN ASC**

### dd21

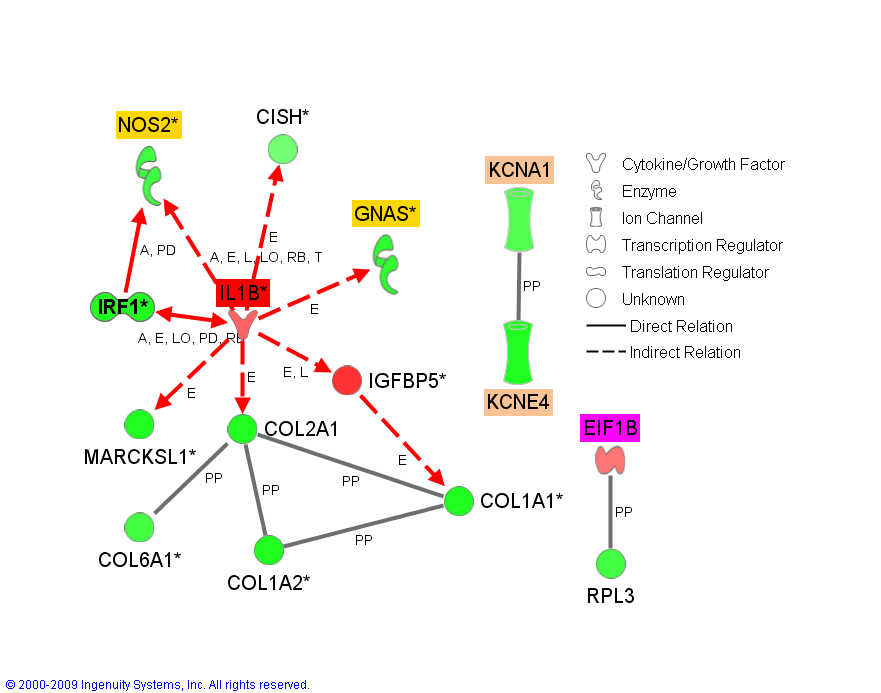
Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively



## OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN BMSC

### dd2

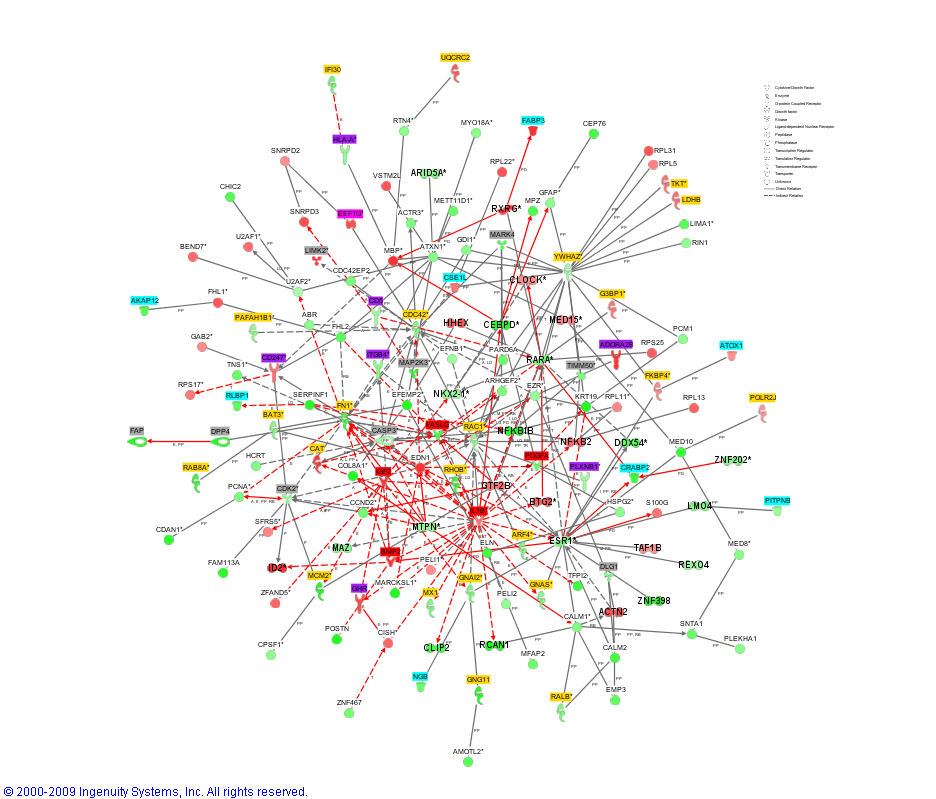
Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively

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**OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN BMSC**

### dd7

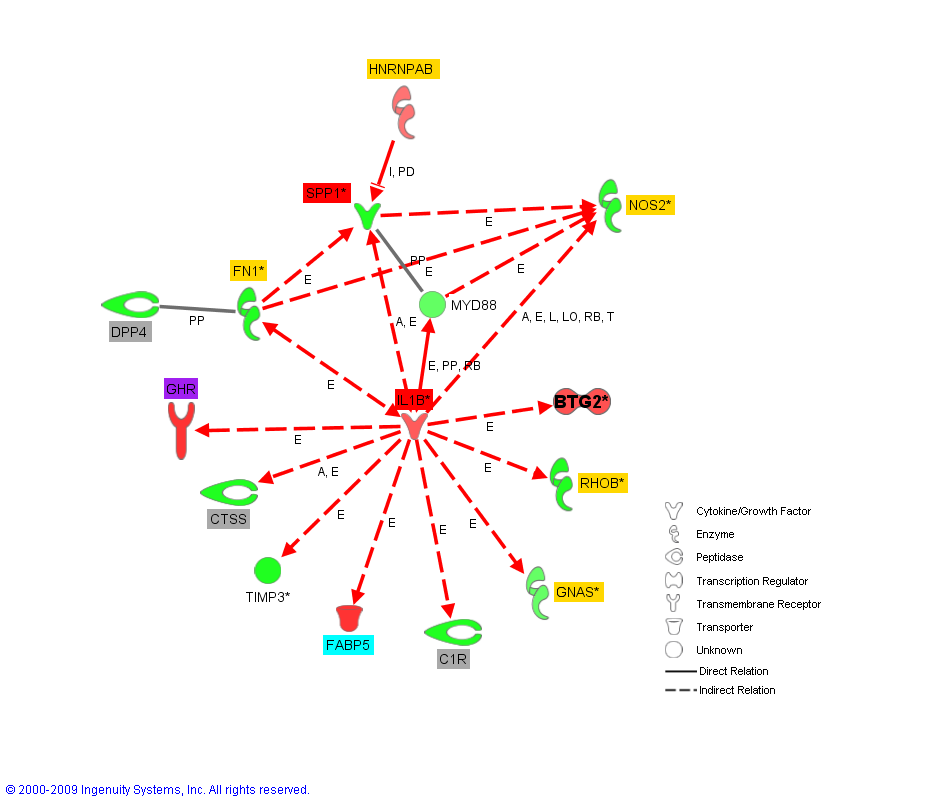
Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively



**OSTEOGENIC vs. ADIPOGENIC DIFFERENTIATION IN BMSC**

### dd21

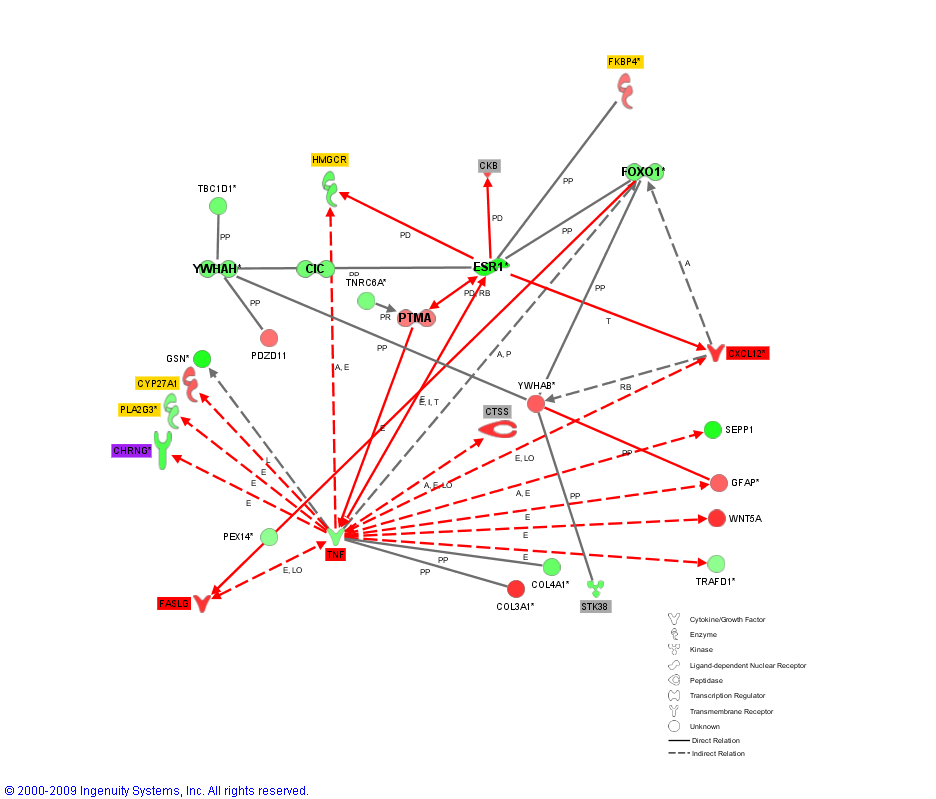
Red and green shade in objects denote higher expression in adipogenic and osteogenic, respectively



## BMSC vs. ASC DURING OSTEOGENIC DIFFERENTIATION

### dd2

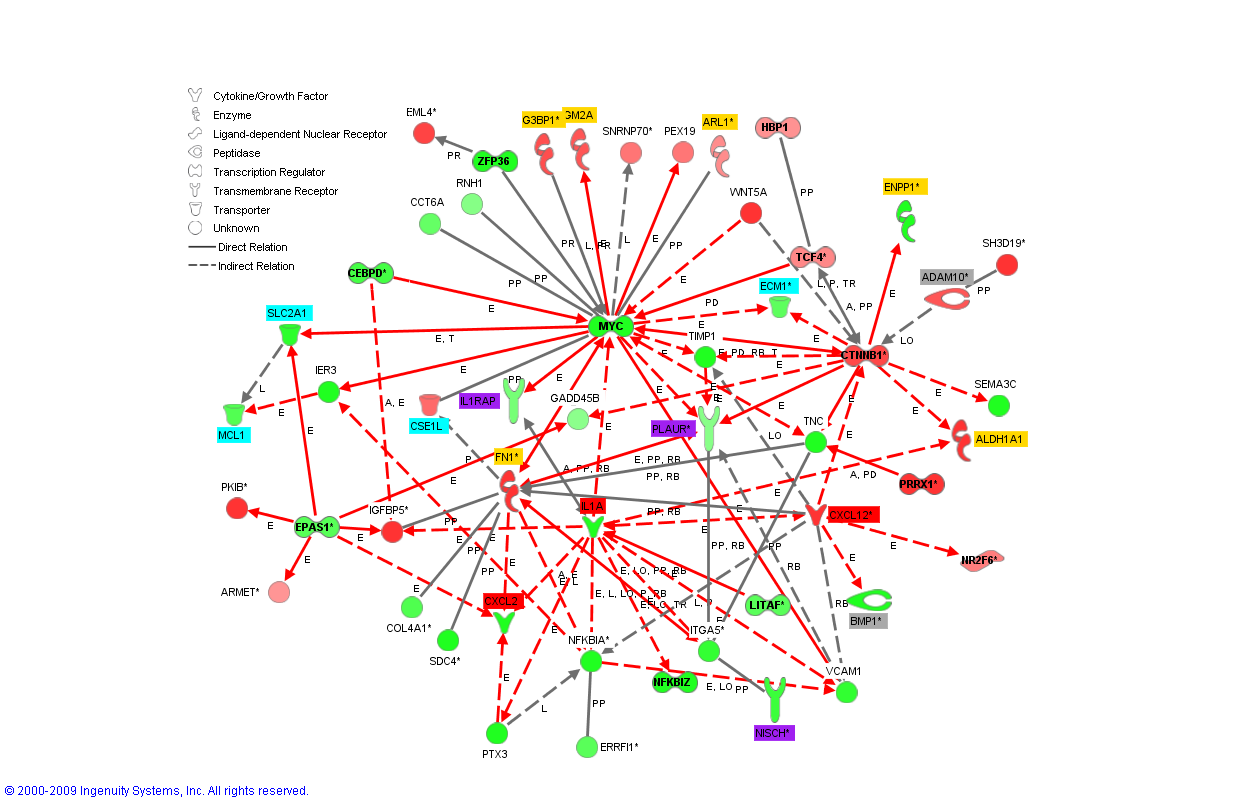
Red and green shade in objects denote higher expression in BMSC and ASC, respectively



## BMSC vs. ASC DURING ADIPOGENIC DIFFERENTIATION

### dd2

Red and green shade in objects denote higher expression in BMSC and ASC, respectively



**BMSC vs. ASC DURING ADIPOGENIC DIFFERENTIATION**

### dd7

Red and green shade in objects denote higher expression in BMSC and ASC, respectively

