Table 2: Canonical pathways associated with differentially expressed genes in Chorio-Hyperoxia group compared to Control-Normoxia

Ingenuity Canonical Pathways	-log (p-value)	z-score	Number of Molecules Involved
Neutrophil degranulation	9.98	5.812	74
Protein Ubiquitination Pathway	8.69	4.814	48
Class I MHC mediated antigen processing and presentation	7.87	5.252	58
Superpathway of Cholesterol Biosynthesis	7.85	2.309	13
Cholesterol biosynthesis	7.49	2.887	12
Ferroptosis Signaling Pathway	6.14	0.784	26
TCR signaling	5.67	2.2	25
Interleukin-1 family signaling	4.97	4.082	24
PTEN Regulation	4.75	3.71	26
Signaling by NOTCH4	4.31	3.153	17
Regulation of Apoptosis	4.22	3.051	13
Amino acids regulate mTORC1	4.04	3.606	13
TREM1 Signaling	3.9	3.873	15
Detoxification of Reactive Oxygen Species	3.75	3.162	10
NRF2-mediated Oxidative Stress Response	3.71	2.324	30
TNFR2 non-canonical NF-kB pathway	3.62	3.207	14
PPARα/RXRα Activation	3.3	-0.775	26
TP53 Regulates Metabolic Genes	2.92	2.84	15
ERK/MAPK Signaling	2.9	1.877	28
IL-10 Signaling	2.66	0.218	21
Sirtuin Signaling Pathway	2.45	-0.209	33
Macrophage Alternative Activation Signaling Pathway	2.38	2.294	23
Signaling by the B Cell Receptor (BCR)	2.37	2.985	22