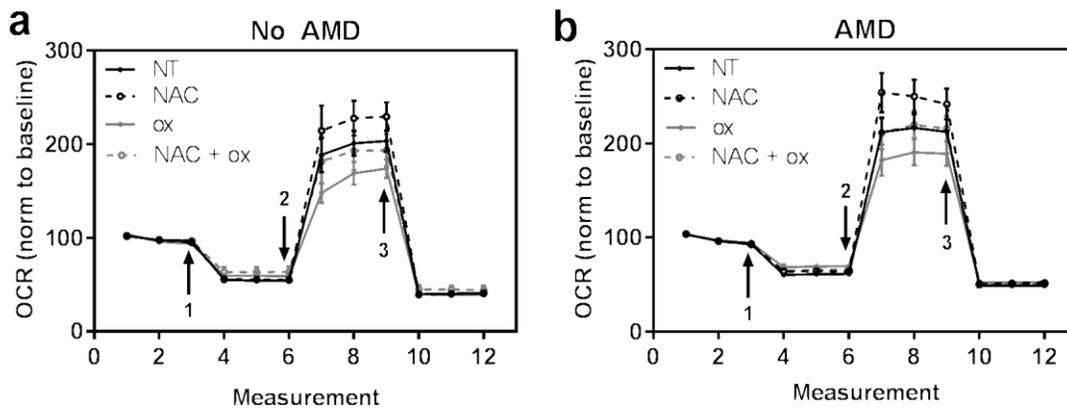


Supplemental Figure 1: Characterization of NAC treatment effect. RPE cells from donors without AMD ($n = 3$) were treated with NAC for 24hrs at a range of concentrations (100-1000 μM). Cell viability (**a** and **b**) and ATP content (**c**) are expressed as percentage of no treatment control. Data are mean (\pm SEM). * $p < 0.05$ determined by One-Way ANOVA with Dunnett's post hoc.



Supplemental Figure 2: NAC treatment improves mitochondrial function. Traces from Extracellular Flux Analyzer showing oxygen consumption rate (OCR) normalized to baseline for cells from No AMD ($n=6$) donors (**a**) and AMD ($n=12$) donors (**b**) with or without NAC pre-treatment and/or H_2O_2 (ox) treatment. NT = no treatment. Data are mean (\pm SEM). Arrows indicate injection of oligomycin (1), FCCP (2), and antimycin A and rotenone (3) to perturb mitochondrial function. Data from these traces were used to calculate the parameters of mitochondrial function found in Figure 6.

Supplement Table 1. Donor Characteristics and Clinical Information ^A

Figure	Disease State^B	Sample (n)	Sex Male (n)	Sex Female (n)	Age^C (Mean ± SD)
1a - 1e	No AMD	7	3	4	66 ± 10.1
	AMD	7	5	2	76 ± 6.8
1f & 1g	No AMD	6	5	1	60 ± 9.2
	AMD	8	6	2	73 ± 9.1
2	No AMD	5	2	3	69 ± 7.4
	AMD	10	6	4	75 ± 3.6
3	No AMD	6	2	4	65 ± 8.6
	AMD	15	10	5	72 ± 10.1
4	No AMD	6	2	4	65 ± 8.7
	AMD	12	9	3	73 ± 7.7
5	No AMD	6	3	3	67 ± 10.0
	AMD	7	5	2	69 ± 15.3
6	No AMD	6	4	2	59 ± 8.8
	AMD	11	7	4	70 ± 15.4

^A Information supplied by Lions Gift of Sight (St. Paul, MN).

^B Minnesota Grading System (MGS) was used to evaluate the stage of AMD in eye bank eyes (Olsen and Feng, 2004). No AMD = MGS1; AMD = MGS2, 3, or 4.

^C There was no statistically significant difference in age between No AMD and AMD donors as determined by t-test comparison for donors used in each figure.