

SUPPLEMENTARY INFORMATION

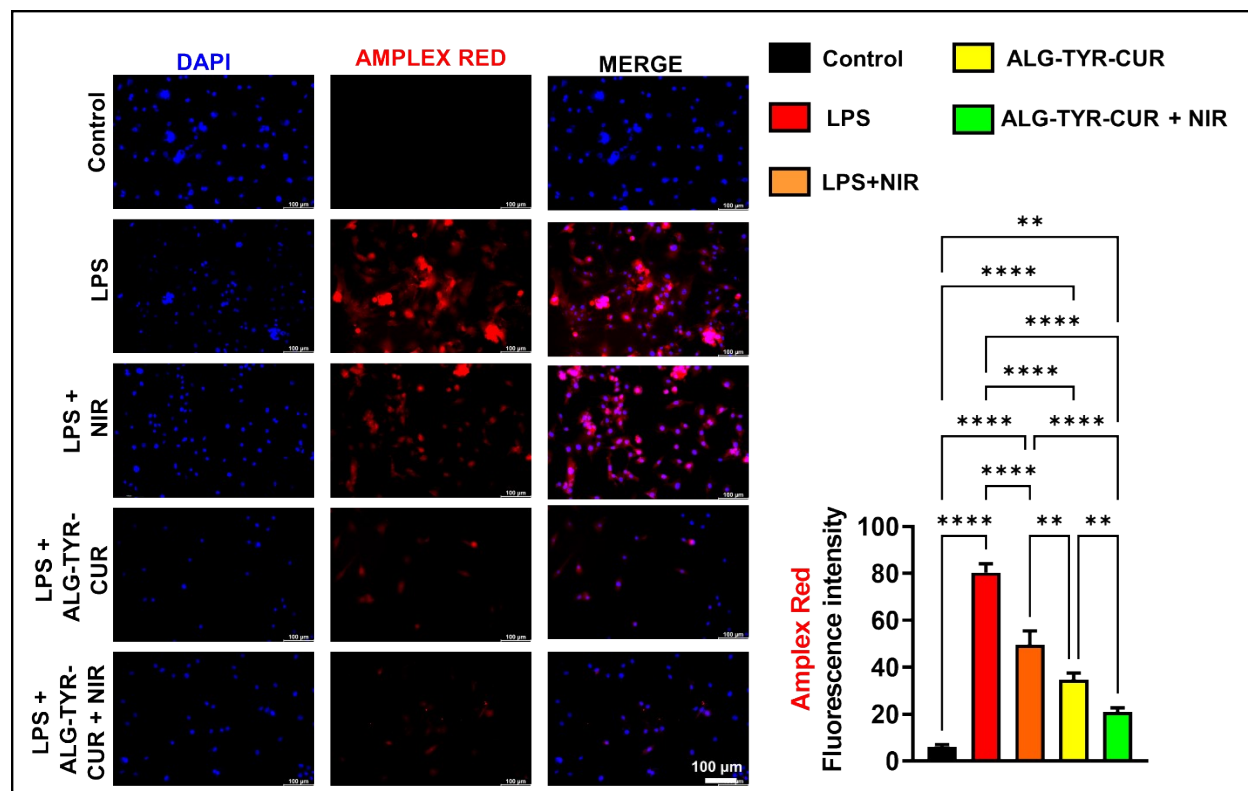


Figure S1. Amplex Red assay for ROS generation in chondrocytes. ROS levels were measured under different treatments: Control, LPS, LPS + NIR, ALG-TYR-CUR, and LPS + ALG-TYR-CUR + NIR. The control group showed minimal ROS production (6), while LPS significantly increased ROS (80.6). NIR exposure reduced ROS (49.6), and ALG-TYR-CUR further decreased ROS (34.6). The combination of ALG-TYR-CUR with NIR showed the lowest ROS levels (21), indicating optimized manage of oxidative stress.