

SUPPLEMENTARY MATERIAL

Effects of Gold Nanoparticles and Gold Anti-Arthritic Compounds on Inflammation Marker Expression in Macrophages

Lloyd R. A. James,^{A,B} Ron Sluyter,^{A,C,D} Carolyn T. Dillon,^{A,B,D} and Stephen F. Ralph^{A,B,D,E}

^ACentre for Medical and Molecular Bioscience, University of Wollongong, Wollongong, NSW 2522, Australia.

^BSchool of Chemistry, University of Wollongong, Wollongong, NSW 2522, Australia.

^CSchool of Biological Sciences, University of Wollongong, Wollongong, NSW 2522, Australia.

^DIllawarra Health and Medical Research Institute, Wollongong, NSW 2522, Australia.

^ECorresponding author. Email: sralph@uow.edu.au

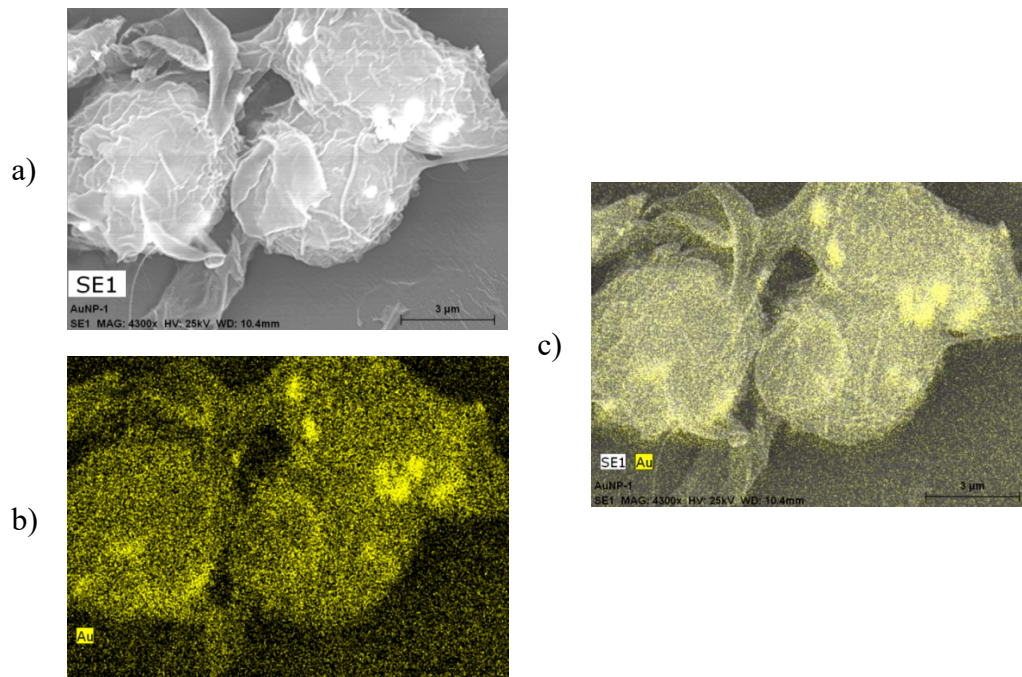


Figure S1. EDX and FESEM images of RAW264.7 cells treated with 60 μM Au NPs at 37°C under an atmosphere of 5% CO_2 for 24 h. Images were collected at 4300x magnification with an accelerating voltage of 25 kV. EDX maps were collected for 90 min: (a) FESEM image; (b) EDX map for gold; (c) overlap of (a) and (b).

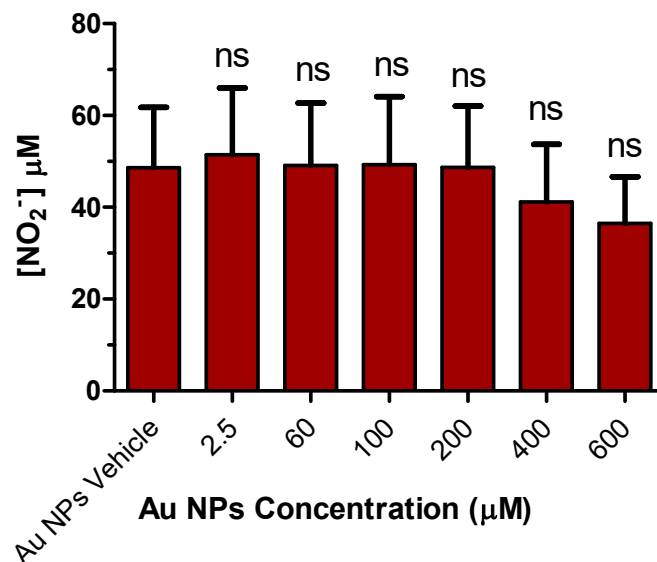


Figure S2. Effect of pre-incubation with Au NPs on LPS-induced nitrite production by RAW264.7 macrophages. Cells were pre-incubated with various concentrations of Au NPs at 37 °C under an atmosphere of 5% CO_2 for 4 h, then 0.1 $\mu\text{g}/\text{mL}$ LPS added, and the cells incubated under the same conditions for a further 20 h. Nitrite concentration was then

measured by the Griess assay. The error bars represent one standard deviation calculated from triplicate experiments. ns = not significant compared to Au NPs vehicle ($P > 0.05$).

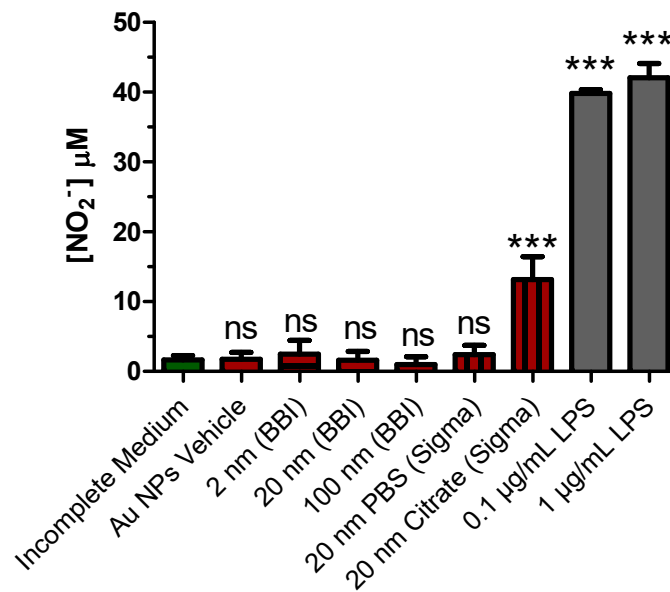


Figure S3: Effect of addition of commercial Au NPs on nitrite production by RAW264.7 macrophages. Cells were incubated with the Au NPs at 37 °C under an atmosphere of 5% CO₂ for 24 h, and the nitrite concentration was then measured by the Griess assay. All Au NP treatment solutions contained 40 μM gold, with the exception of the 2 nm (BBI) Au NPs, which contained 9 μM gold. The error bars represent one standard deviation calculated from triplicate experiments. *** = statistically significant ($P < 0.001$) compared to corresponding vehicle; ns = not significant compared to corresponding vehicle ($P > 0.05$).