Supporting Information for

Three-dimensional WS_2 Nanosheet Networks for H_2O_2 Produced for Cell Signaling

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Supporting Figures

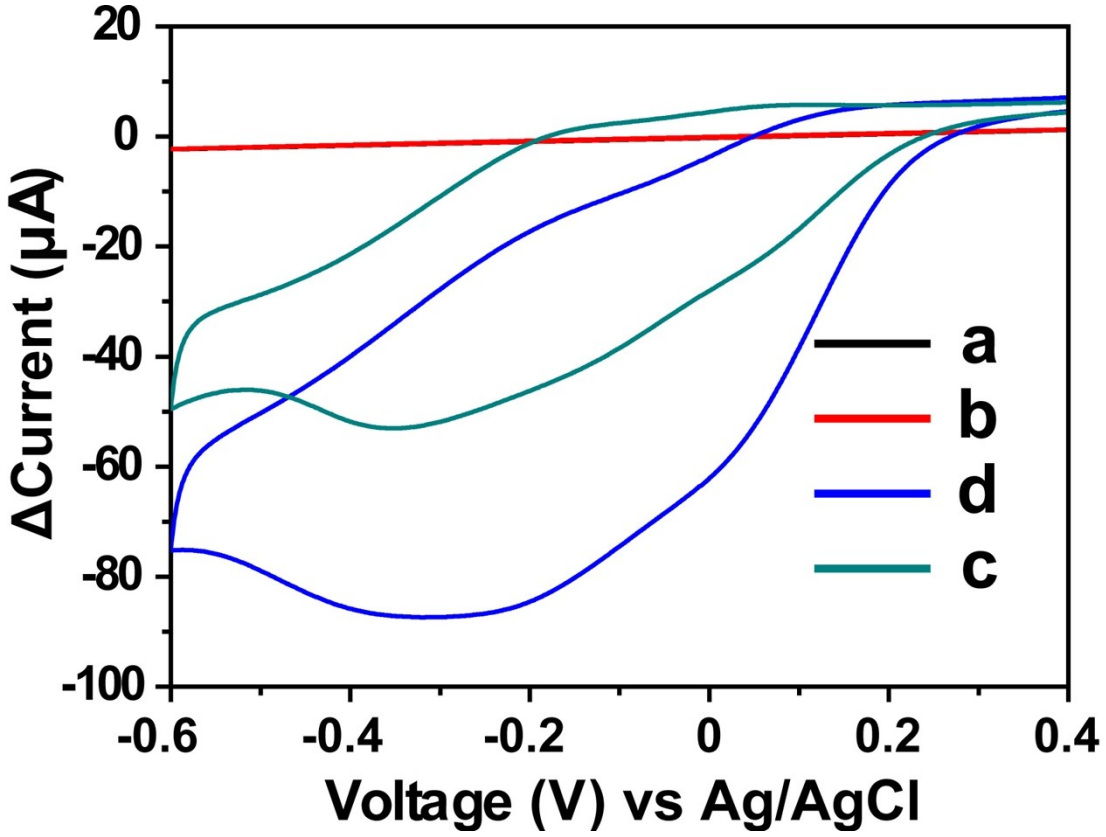

Fig. S1. Cyclic voltammograms of (a) carbon fiber, (b) WS_2/carbon fiber in PBS, (c) carbon fiber, and (d) WS_2/carbon fiber in PBS with and without 0.1 mM H_2O_2 in the N_2 saturated 0.1 M PBS at a scan rate of 50 mV s^{-1}.

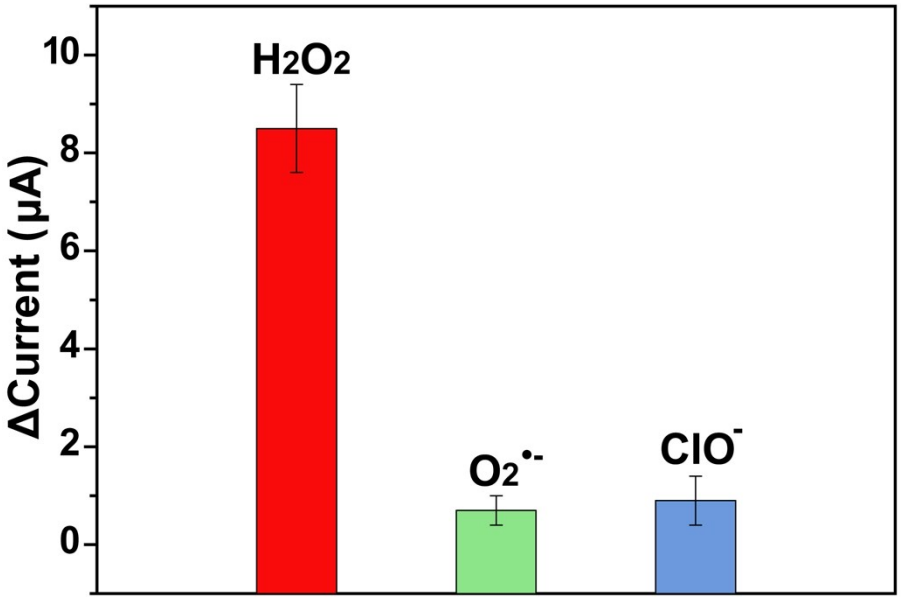

Fig. S2. ROS selectivity obtained at −0.25 V versus Ag|AgCl toward the addition of H_2O_2, $O_2^{\bullet-}$ and ClO^-.

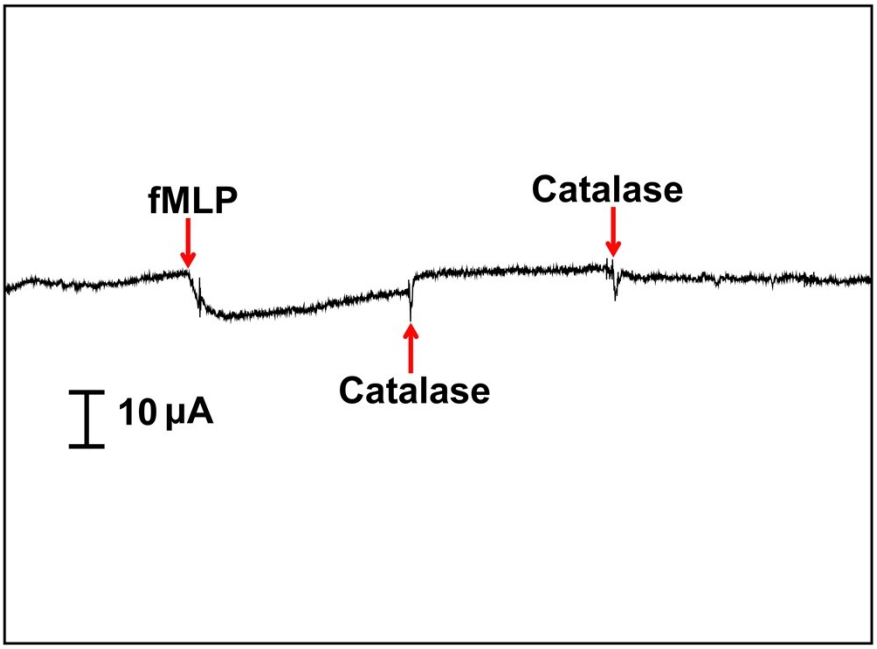

Fig.S3. Amperometric responses obtained at the WS_2/carbon fiber electrodes located near in living RAW 264.7 macrophage cells at applied potentials of −0.25 V versus Ag/AgCl in 0.1 M PBS (pH 7.4) with the addition of 0.3 μM fMLP and 60 U mL^{-1} (final concentration) of catalase.

Table S1. Comparison of the electrochemical detection limits of different H_2O_2 sensors.

Materials	Detection limit	Reference
3D WS_2	2 nM	Our work
$Pt_{48}Pd_{52}$-Fe_3O_4 on carbon	0.005 μM	Ref. S1
HRP-Au-chitosan-clay	9 μM	Ref. S2
Pt-MnO-graphene	0.05 μM	Ref. S3
AuCu nanowires	0.002 μM	Ref. S4
Au/MnO NPs	0.008 μM	Ref. S5
MoS_2 Nanoparticles	0.0025 μM	Ref. S6
Hydrogel-Stabilized Enzyme	50 nM	Ref. S7
Au-TiO_2	2 nM	Ref. S8
PCL-2 and IETDC probes	0.037 μM	Ref. S9
CdS–Carbon Nanotube Nanocomposite	0.08 μM	Ref. S10

References

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