Supplementary Material (ESI) for The Analyst

Electronic Supplementary Information

High performance immunoassay using immobilized enzyme in nanoporous carbon

Yunxian Piao,[a] Dohoon Lee,[b] Jungbae Kim,*[c] Jaeyun Kim,[d] Taeghwan Hyeon,[d] and Hak-Sung Kim*[a]

[a]*Department of Biological Sciences, Korea Advanced Institute of Science and Technology, Daejeon 305-701, Korea. E-mail: hskim76@kaist.ac.kr*
[b]*Korea Institute of Industrial Technology, 35-3, Hongcheon-ri, Ipjang-myun, Cheonan 330-825, Korea*
[c]*Department of Chemical & Biological Engineering, Korea University, Seongbuk-Gu Anam-Dong 5-Ga 1-Bunji, Seoul 136-701, Korea. E-mail: jbkim3@korea.ac.kr*
[d]*National Creative Research Initiative Center for Oxide Nanocrystalline Materials and School of Chemical and Biological Engineering, Seoul National University, Seoul 151-744, Korea*

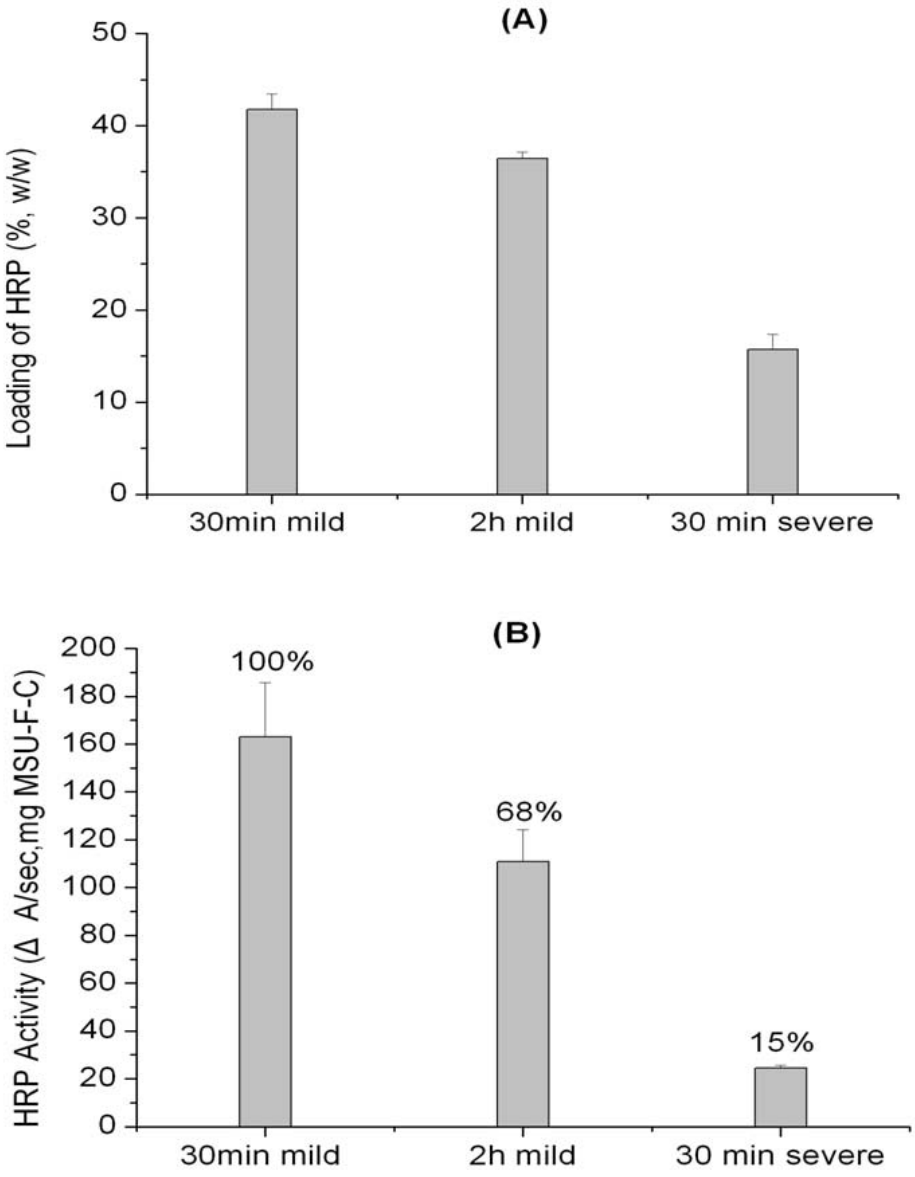

Fig. S1 Loading of enzymes (A), and activities of immobilized HRP per unit mass of MSU-F-C (B) being treated with acid under different conditions (error bar: ± standard deviation, n=3).

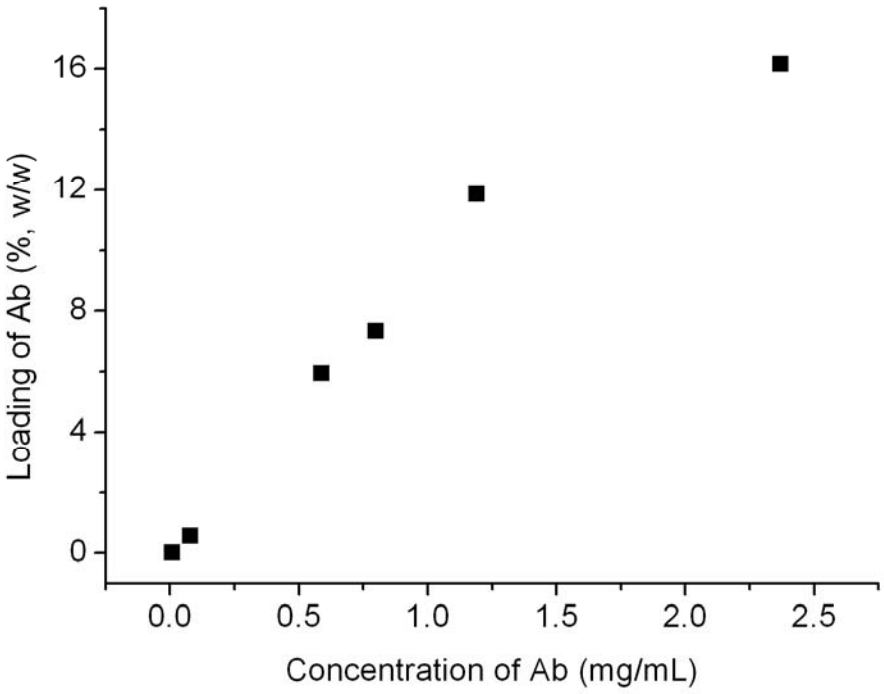

Fig. S2 Dependence of antibody (Ab) loading on initial concentration. Antibodies were immobilized on MSU-F-C/HRP using EDC/sulo-NHS as linking reagents.

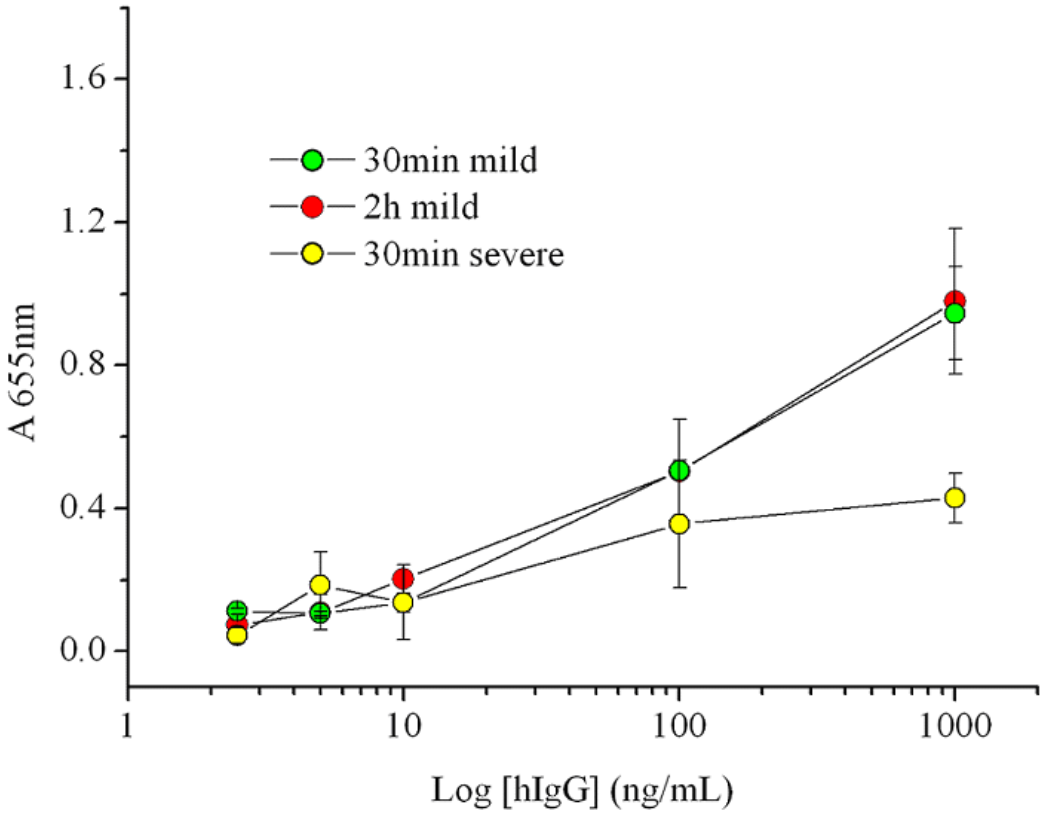

Fig. S3 Calibration plot for the magnetic-bead based immunoassay of human IgG using MSU-F-C/HRP/anti-human IgG and MB/anti-human IgG. MSU-F-C treated with acid in different conditions were used. The scale bars indicate standard deviations in triplicate experiments.