

Method for Cell immobilization by Gold Binding Polypeptide(GBP) Displayed on the *E.coli* Cell Surface

Yeonjae Kang¹, Su-Jin Ku³, Donghwan Kwak³, Sang Yup Lee^{1,2}

¹Department of Chemical and Biomolecular Engineering,
Bioprocess Engineering Research Center, KAIST

²Department of BioSystems and Bioinformatics Research Center, KAIST

³Korea Materials & Analysis Corp. (KMAC)

TEL: +82-42-869-5970, FAX: +82-42-869-8800

Abstract

A Biosensor is an analytical device utilizing biological elements integrated with a transducer that converts biological expressions into a measurable signal. The development of immobilization technologies for stabilizing biomolecules and coating with them on the surface is a significant factor in biosensor construction. Since the research of whole cell biosensor has been increased, it is important to develop the method of cell immobilization on the transducer surface. Gold binding polypeptide(GBP) which was developed in an *E. coli* cell-surface display system is known to interact with gold surface. In this study, we show bacterial cell immobilization on the gold surface by GBP displayed on the *E.coli* cell surface using SPR analysis.

Acknowledgments: This work was supported by the R&D program for Regional Development, which is sponsored by the Korea Ministry of Commerce, Industry and Energy

References

1. Brown, S., Metal-recognition by repeating polypeptides (1997), *Nature Biotechnology*, 15: 269-272.
2. Sarikaya, M., Tamerler C., Jen, AK., Schulten, K., and Baney, F., Molecular biomimetics: nanotechnology through biology (2003), *Nature Materials*, 2: 577-585.