SPR Imaging Protein Chips for Analysis of hRAD51 - ASK1 Protein Interaction.

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Abstract

Recently, SPR imaging protein chip system has been used for the analysis of protein-protein interaction by fabricating protein microarrays on the gold surface. An advantage of this technique is to detect molecular interaction in a high-throughput mode without the use of label. Apoptosis signal-regulating kinase 1(ASK1) is a member of the mitogen-activated protein (MAP) kinase family, which activates both the SEK1-JNK and MKK3/6-p38 MAP kinase pathways and constitutes a pivotal sigaling pathway in cytokine- and stress-induced apoptoisis. Human RAD51 protein participates in DNA double strand break(DSB) repair by homologous recombination. In the study, the interaction of hRAD51 and ASK1 was studied using SPR and SPR imaging protein chip system.

Reference

- 1. H.S. Ro, S.O. Jung, B.H. Kho, H.P. Hong, J.S. Lee, YB. Shin, M.G. Kim, B.H. Chung, (2005) *Appl. Environ. Microbiol.*, 71(2),1089-1092.
- 2. J-M. Jung, Y-B. Shin, M-G. Kim, H-S Ro, H.-T. Jung and B.H. Chung, (2004) *Anal. Biochem.* **330**(2), 251-256.
- 3. Matuzawa, A. and H. Ichijo, (2001) J. Biochem. 130, 1-8.
- 4. J. Thacker, (2005) Cancer letters 219, 125-135.