

Protein patterning with pressure assisted capillary force lithography

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A novel way to pattern a protein on a surface was demonstrated with soft lithography and self assembled monolayer. Protein patterning have been developed to detect several diseases on the biological view. Several techniques have been examined for creating micron-level two dimensional arrays of proteins on surfaces, including the use of conventional photo-resist lithography, photochemistry and self assembled mono-layers. Protein patterning with PA-CFL (pressure assisted capillary force lithography) is suitable for current industry, because it does not required high cost equipments such as UV exposure and it is relatively simple method for protein patterning.

PA-CFL was used for fabrication of line and space pattern of protein. Self assembled monolayer of 3-APTES (3-aminopropyltriethoxysilane) is organized on the pattern fabricated by PA-CFL. Ferritin is a kind of protein and has been known as the mark to detect some disease such as Hepatoma, Lung cancer, Leukemia and Liver cirrhosis. Ferritin is immobilized on the pattern using 3-APTES.