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گواهی ثبت مقاله در سیویلیکا
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عنوان مقاله:

Biomolecular binding analysis by using Thermophoresis Technology

محل انتشار:

اولین کنفرانس ملی یافته های نوین زیست شناسی (سال: 1395)

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خلاصه مقاله:

life science, Binding processes of proteins, DNAs and other biomolecules play an important role in all fields of from molecular physiology to medicine and pharmacology. Thus, analysis the biomolecular interactions not only the molecular biology of the cell but also offers different ways to treatment of gives fundamental insights into disease. MicroScale Thermophoresis (MST) is a new biophysical technique that enables the quantitative analysis of biomolecular interactions in solution on the microliter scale with high sensitivity This technique is based on the movement of molecules in temperature gradients. This phenomenon strongly depends on a variety of molecular properties such as hydration shell, size, charge or conformation. This method can be used for the analysis of any kind of molecular interaction of proteins/ peptides, DNA or molecular com-gradient during a MST experiment, an infrared laser has been used. plexes. In order to inducing a temperature of fluorophores have been used for detecting and quantifying the movement attached or intrinsic Covalently .molecules through the temperature gradient Some advantages of this technique including: fast measurements (within 15 mins), Small reaction volumes (4 µl), measurements of fluorescently labelled and label free probes, large controlled temperature range (20 – 45°C) etc… Moreover, MST have different applications such as determination of binding stoichiometries and modes, precise determination the affinity of biomolecules in interactions, analysis of protein unfolding, binding enzyme kinetics etc… Consequently, in order thermodynamic analysis of biomolecular interactions, analysis of to study the interactions of biomolecules in different solution conditions, MST offers enormous advantages over other common approaches enzyme kinetics

کلمات کلیدی:

Interaction analysis, Microscale Thermophoresis

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