

presents the seminar series in
Cancer Biology, Biotherapy and Nanomedicine

Multisource and Functional Diversity of Immunoglobulin

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Abstract

Immunoglobulin (Ig) is one of the most important immune molecules, which is thought to be produced only by B lymphocytes. B-cell membrane-bound immunoglobulin is responsible for antigen recognition, and secreted Ig as antibody plays an immune defensive role. This is a classic concept in contemporary immunology textbooks. However, in recent 20 years, a large number of evidences have confirmed that besides B-cell-derived immunoglobulin(B-Ig), there is another kind of non-B-cell-derived immunoglobulins (non-B-Ig). There are differences between non-B-Ig and classical B-Ig in V(D)J rearrangement pattern, mechanism of expression regulation and physicochemical characteristics. Functionally, non-B-Igs not only play a natural antibody activity, but also play a cellular biological function as cytoskeleton-related proteins or extracellular matrix proteins. Importantly, non-B-IgG exhibits potential proto-oncogenes, which are highly expressed in cancer stem cells and play an important role in tumorigenesis and metastasis, and can be used as a new target for cancer therapy.

About the Speaker



In the Qiu' laboratory, they are trying to understand that Molecular structure and function of non B cell-derived immunoglobulin (Ig). It has traditionally been believed that the production of immunoglobulin (Ig) is restricted to B lineage cells. However, Qiu et al for the first time in the field reported that Ig could be widely produced by different types of lineage cells. Increasing evidence from Qiu' lab suggested that non B cell-derived Ig mainly serve as cell biological function, which was involved in proliferation and migration of cell, even tumorigenesis and metastasis of cancer cells. So far, they have published more 30 papers in the new field. The research has been supported by key projects of the National Natural Science Foundation, major international cooperation projects of the National Natural Science Foundation, and key support projects of major research projects of the National Natural Science Foundation.