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## Potential roles of cancerous immunoglobulins in cancer immunology

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Expressions of immunoglobulins essential for growth/proliferation of cancer cells have been known for decades. However, the detailed mechanisms of action and their roles in the immunity of cancer cells are not fully understood. RP215 is a monoclonal antibody generated against cancer cell extract and was shown to react mainly with a carbohydrate-associated epitope in the heavy chains of immunoglobulins on the surface of all human cancer cells, but not in normal immune cells. Through years of studies with RP215 as the unique probe, it is now established that RP215 and goat anti-human IgG act biosimilarly on cultured cancer cells, including induced apoptosis, complement-dependent cytotoxicity as well as gene regulations. Both were shown to regulate genes involved in the growth/proliferation as well as the innate immunity of cancer cells with high correlations. Previous studies also indicated that cancerous immunoglobulins are expressed with molecular mechanisms completely different from those of normal immune cells in our human body. Therefore, the expressed cancerous immunoglobulins maybe playing key roles to neutralize circulating “antigen” within the body for immune protection of cancer cells. Both normal and cancer immune systems can operate independently in our body. We believe that a better understanding about the underline mechanisms of cancerous immunoglobulins may lead to a more realistic strategy for cancer immunotherapy in humans.

### Biography

Gregory Lee upon completion of his PhD degree in Biophysical Chemistry at California Institute of Technology in 1972 joined UCSD as a NIH Postdoctoral Fellow to carry out pioneer work on general ligand affinity chromatography. In 1976, he studied enzymology and biochemical genetics at the National Institute of Health and in 1981, he was appointed as a Professor and Director of the Andrology Laboratory at the University of British Columbia. During the last two decades, he has created numerous monoclonal antibodies for diagnostic and therapeutic applications in human health care, including RP215 and GHR106 for potential use as anti-cancer drugs. He has been serving as an editorial board member for *Journal of Cancer Science and Therapy*, *American Journal of Cancer Review*, *American Journal of Cancer Science*, and *Journal of Biochemistry and Physiology*.

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