IMS-PL-2 **Antibody-Cytokine Fusion Proteins: From the Bench to the Clinic**

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Antibodies can be used to deliver bioactive molecules (drugs, cytokines, photosensitizers, radionuclides, etc.) to the tumor environment, thus sparing normal tissues. The antibody-based targeting of certain modified extracellular matrix components is particularly attractive, because of: (i) the abundance and stability of these antigens (e.g., splice isoforms of fibronectin and tenascin-C); (ii) the dependence of cancer on new blood vessels; (iii) the accessibility of neo-vascular structures from the blood-stream; (iv) the fact that some extracellular matrix components are very abundant in many different cancer types, while being virtually undetectable in most normal adult tissues [Refs. 1-4]. Similar antibody-based vascular targeting approaches can be used for the treatment of non-oncological conditions (e.g., arthritis, endometriosis), which are characterized by the over-exuberant proliferation of new blood vessels [Ref. 5]

Among various classes of "armed" antibody derivatives, antibody-cytokine fusion proteins (immunocytokines) constitute a novel class of particularly promising biopharmaceutical agents, which can activate or inhibit immunological activities at the site of disease [Ref. 3].

In this lecture, I will present our experience (both clinically and preclinically) in the development and clinical applications of immunocytokines for the treatment of cancer and of chronic inflammation.

References:

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