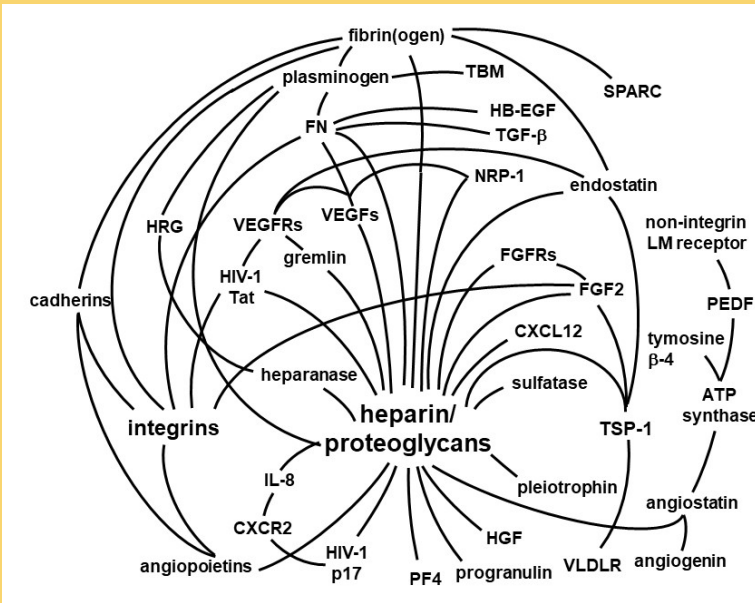


MACROMOLECULAR INTERACTIONS: AN OVERVIEW

Human diseases are usually the outcome of the contribution of many processes, as for viral infection and tumor growth and metastatization.

At a molecular level, these processes are governed by an intricate network of **interactions** among viral proteins, cytokines, growth factors, extracellular matrix components and cellular receptors (the so called “**interactome**”).

Understanding how macromolecules **interact** under physiologic and pathological conditions is an essential step in research and diagnostic laboratories.



Schematic representation of the interactome of the process of neovascularization, that plays an important role in several human pathologies, including tumor growth and metastatization

Equally important is the study of the interaction between drugs and their pathological targets, that is fundamental in the process of drug discovery.

Biological macromolecules and drugs are characterized by very different dimension and structural features. Also, their interactions occur with very different affinity (usually measured as dissociation constant (Kd), that is inversely proportional to affinity).

These considerations call for reliable, fast and compliant techniques to study interactions of biological and pharmacological interest.

