Chemistry of Contrast Media

Biologicals

Monclonal Antibodies, Antibody Fragments and Peptides

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Learning Objectives:

- Discover the power of antibodies and antibody fragments for biotechnological applications, biomedical research and clinical programs.
- Understand the relationship between antibody/fragment structure, biochemical and pharmacokinetic properties.
- Learn about the art to generate imaging tracers derived from antibodies and its engineered fragments.

Antibodies are professional antigen-binding molecules that are present in all mammals as part of their natural host immune system. As such they can be used to target membrane receptors and soluble proteins for imaging applications in preclinical models and in patients. Through biotechnological methods, antibodies can be further reformatted into smaller molecules such as scFv's, diabodies. minibodies and nanobodies. Antibodies and derivative fragments have their particular properties in regard to protein structure, size, stability, affinity, specificity and pharmacologic behavior. In this session we will further evaluate their labeling methods and technologies to isolate binders of interest. Finally, we will discuss important aspects to progress an antibody-derived imaging tracer into clinical translation.