

Novel Antibody-Targeted Liposomes for the Treatment of Solid Tumors

1. Transgenic mice can be used to generate custom human antibodies efficiently to replace the formerly used members of the Camelid family. (*this thesis*)
2. The production of proteins with a single cysteine instead of a polyhistidine-tag enables nanobodies to evade renal clearance *in vivo* while facilitating efficient radiolabeling. (*this thesis*)
3. Targeting moieties on the surface of liposomes can increase liposomal accumulation in antigen positive tumors. (*this thesis*)
4. The enhanced permeability and retention effect, which describes the ability of macromolecules to accumulate in tumors, is the bottleneck for most liposomal therapies. (*this thesis*)
5. The extravasation of liposomes can be improved by enhancing tumor vessel permeability with the use of local mild hyperthermia. (*this thesis*)
6. Nanobodies form the basis for a wide variety and an increasing number of routine and innovative applications in research, biotechnology, and medicine.
- *Serge Muyldermans, Annual Review of Biochemistry, 2013*
7. By believing in personalized medicine, we underestimate the power of natural selection within cancer.
8. By ignoring or not being able to recognize heterogeneity in patients, many drugs are doomed to fail from the start.
9. The absence of evidence is not the evidence of absence.
- *Carl Sagan*
10. Intellect distinguishes between the possible and the impossible; reason distinguishes between the sensible and the senseless. Even the possible can be senseless.
- *Max Born*
11. Nearly all men can stand adversity, but if you want to test a man's character, give him power.
- *Abraham Lincoln*