Intellectual Property (Non-confidential)



Masking Technology for Therapeutic Antibodies to Reduce Side Effects



DESCRIPTION

Current monoclonal antibody therapies used to treat blood and solid tumor malignancies are often hindered by nonspecific damage to non-diseased tissues. This is because the tumor antigens targeted by such antibodies are often not restricted to the tumor but are also expressed in non-diseased tissues. This technology covers a platform technology antitumor for directing monoclonal antibodies to enhance their therapeutic effects while inhibiting such negative side This approach masks the effects. antibody's antigen recognition site in

normal tissue and releases the mask when the antibody complex reaches a tumor site. This is accomplished by utilizing a linker with an MMP-9 protease site which is degraded in tumor cells (releasing the mask) but not in normal cells (maintaining the mask).

KEY ASPECTS

- The utility of this platform has been demonstrated for therapeutic anti-EGFR antibodies, C225 (Cetuximab, Erbitux) and 425 (Matuzumab)
- Both Homodimer and heterodimer masked antibodies have been demonstrated
- Both Homodimer and heterodimer masked scFvs (i.e., antibody fragments) have been demonstrated
- This technology facilitates increased dosing while lowering off-target adverse effects
- This masking technology utilizes a linker consisting of serine-glycine residues flanking an MMP-9 protease site

INTELLECTUAL PROPERTY

Title	US Patent Application	Filed
Design and Development of Masked Therapeutic Antibodies to Limit Off Target Effects: Application to Anti-EGFR Antibodies	12/849,786	8/3/2010

<u>CONTACT</u>

Matthew Grunseth, M.B.S. Manager, Office of Technology Licensing Telephone: (626) 471-7221 | Email: <u>mgrunseth@coh.org</u>

This material is a summary of public domain and non-confidential City of Hope information. Additional material may be disclosed under a confidentiality agreement.