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Protein Scaffold for Molecular Targeting Ligands (20140059, Dr. Benjamin Hackel)

IP Status: Issued US Patent; **Application #:** 15/032,753

Non-immunoglobulin Based Protein Scaffolds

The next generation of non-immunoglobulin based (i.e. non-antibody) protein scaffolds for use in immunotherapies and medical diagnostics has been developed. The protein scaffolds are smaller and more stable than comparable antibody scaffolds, which improves their physiological distribution. Additionally, these scaffolds bind with high affinity to their targets and can be easily customized for specific molecular targets. These characteristics strongly improve retention at the target site.

Effective Immunotherapies

Antibody-antigen bond specificity is a crucial aspect of effective immunotherapies and medical imaging. These protein scaffolds offer improved performance compared to current antibody techniques.

Protein Scaffold Applications

This technology has a wide range of applications. The protein scaffolds are effective for molecular targeting to neutralize a target protein, drug delivery to specific cells, such as tumor cells, and tumor imaging through attachment of a fluorophore to the protein scaffold. The scaffolds have low toxicity and have a cost-efficient production process through chemical synthesis or recombinant, bacterial methods.

BENEFITS AND FEATURES OF PROTEIN SCAFFOLDS:

- High binding affinity
- Improved physiological distribution
- Strong retention at the target site
- Easily customized for specific targets
- Non-immunoglobulin based
- Wide range of applications
- Cost-effective production

Phase of Development In vitro and in vivo development and characterization.

Researchers

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Life Sciences/Diagnostics & Imaging
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