TriTACs are novel T cell-engaging therapeutic proteins optimized for treatment of solid tumors and long serum half-life.


ABSTRACT

T cell engagers are antibody-derived therapeutics that transiently tether T cells via the T cell receptor (TCR) to surface antigens on tumor cells. This leads to activation of T cells and induced destruction of the attached target cells.

**Protein A purification**
- Single polypeptide chain

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- Encouraging so far.
- Diffusion into human tumor tissues than is possible with antibodies given the high interstitial pressure and dense extracellular matrix in solid tumors.
- TriTACs can diffuse much faster across an extracellular matrix than antibodies, and eradicate tumors in concentrations with concomitant induction of inflammatory cytokine release and T cell proliferation.
- TriTACs have serum half-lives of approximately 4 days, and appear well tolerated.

**No potential for Fc receptor binding**
- Single-armed CD3
- Avoids low affinity Fc Receptor binding
- TriTACs incorporate single domain antibodies and use albumin binding for half-life extension
- Single domain antibodies (sdAbs): TriTACs incorporate single domain antibodies and use albumin-binding minimizes non-specific T cell activation
- Domains are connected with G4SG3S linkers
- CHT main peak pooled, final formulated yields ranging from 4% to 10%

**Small size**
- Best for diffusion-controlled solid tumor penetration
- Smaller size (12.5 kDa)
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**Single-armed CD3**
- TriTACs can be purified in a scalable process in all six configurations
- No potential for Fc receptor binding
- Single-armed CD3 binding minimizes non-specific T cell activation

**Safety**
- TriTACs can be made in six different configurations
- Target binding (T)
- T cell binding (C)
- Albumin binding (A)

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