Rethinking CD52: a therapy for autoimmune disease

The opportunity

- Activated CD52^{hi} CD4^{+} T cells are immune-suppressive and shed soluble CD52 (sCD52)
- Recombinant sCD52-Fc suppresses T-cell responses and is a promising novel therapeutic for autoimmune and chronic inflammatory disorders
- Unique MOA: sCD52-Fc functionally targets overactivated T cells, neutralises HMGB1, and suppresses innate responses

Immune-inflammatory disorders affect up to 4 per cent of the global population and can lead to irreversible immunopathologies such as diabetes, psoriasis, systemic lupus erythremotosis, or inflammatory myositis.

Current therapies (such as immune suppressants or inflammatory mediator blockade) are sub-optimal and many are approaching the end of their patent life.

CD52-based therapies promise greater clinical efficacy through regulating overactivated T cells and innate cells, neutralising the inflammatory mediator HMGB1, and represent a unique patent-protected therapeutic mechanism.

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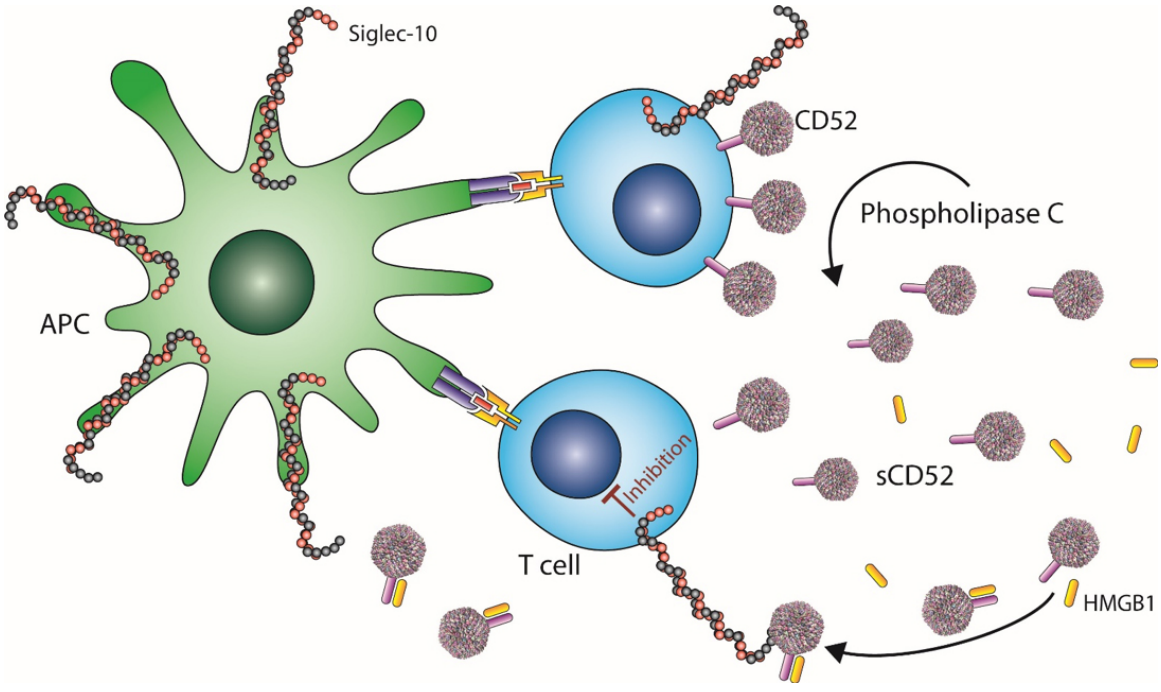
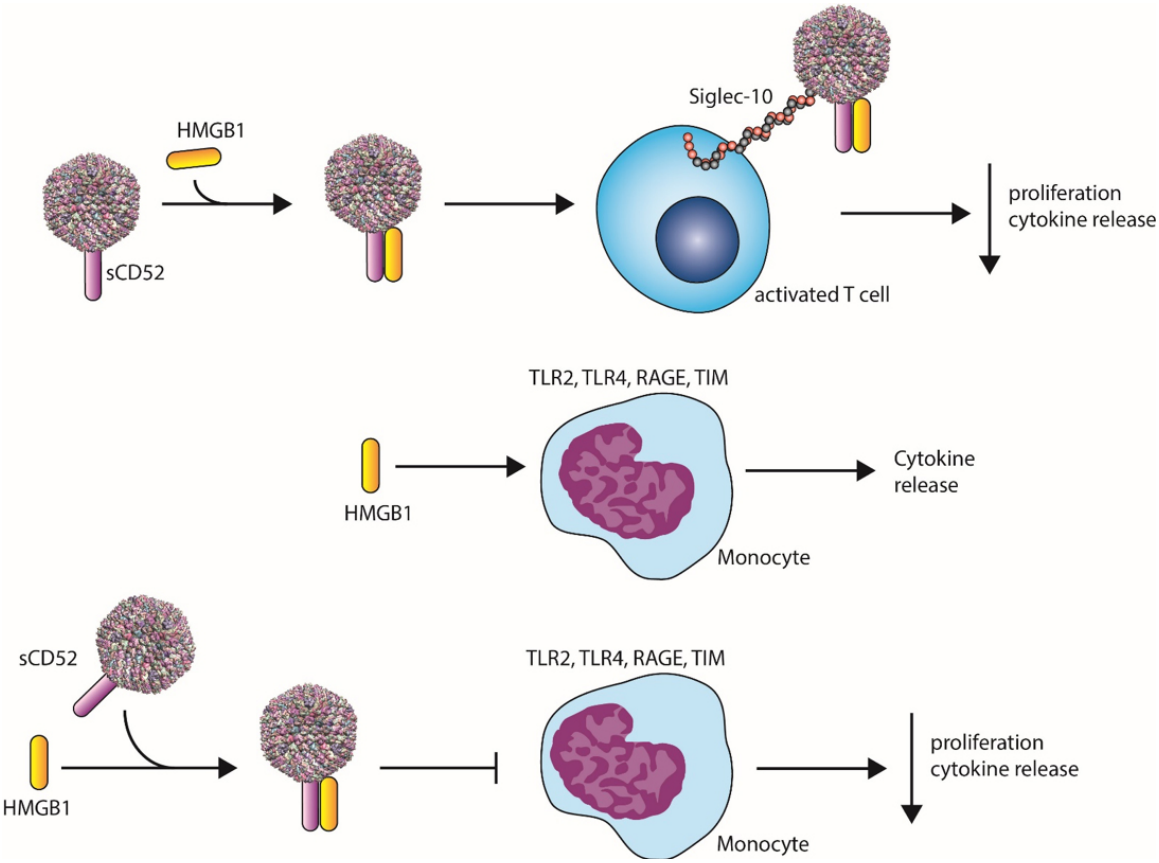
The technology

CD52 is a small GPI-anchored glycopeptide expressed on leukocytes, and up-regulated and shed by activated T cells.



CD52 suppresses T cell function by binding the Siglec-10 receptor and also supresses the innate immune response. Administration of soluble hCD52-Fc reduces incidence of diabetes and sepsis in pre-clinical models, with no demonstrable adverse effects.



Ongoing studies characterising key co-factors, CD52 glycosylation structure-function may yield new IP.

Opportunities for partnership

We are seeking a partner with expertise in glycosylated biologics development and interested in the immune-inflammatory market. Our novel therapy has potential applications in a range of conditions. Specific indications will be identified based on scientific rationale and commercial opportunities.

We have:

- Extensive patent protection (WO2014075125, WO2013071355)
- A world-leading understanding of CD52 biology and unique pre-clinical models

We are seeking:

- Technical assistance in the development of clinic-ready complex biologics
- Investment to support further non-GLP preclinical studies

Scientific team

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