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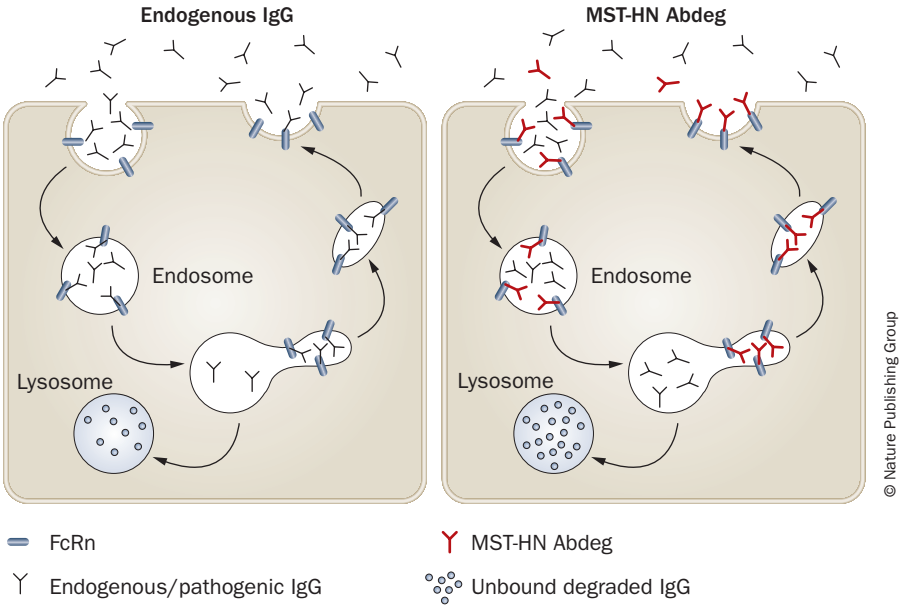
IMMUNOLOGY

# Abdegs: an alternative to IVIg?

Intravenous immunoglobulins (IVIg) are effective in ameliorating many rheumatic diseases. However, as Sally Ward notes, "they can be associated with unwanted side effects and there is currently a shortage of this reagent." Findings from Ward's group, now published in *The Journal of Immunology*, offer insight into a potential substitute for this therapeutic agent.

The neonatal Fc receptor (FcRn) is responsible for the recycling of IgG antibodies, which regulates their abundance and distribution. Ward *et al*. previously demonstrated that this recycling process can be blocked by recombinant antibodies, termed Abdegs, that bind with increased affinity to FcRn and promote degradation of IgGs. In the present study, 1 mg of an Abdeg, MST-HN, given 6 h after induction of anti-glucose-6-phosphate isomerase (GPI) antibody-dependent inflammatory arthritis—resulting from serum transfer from K/BxN to BALB/c mice—greatly reduced anti-GPI titres, inflammatory cell infiltration, ankle swelling and tissue damage in comparison with mice administered with control IgG or carrier only. Interestingly, the effectiveness of MST-HN was found to be comparable to a 50-fold higher dose of IVIg.

MST-HN also considerably reduced severity of established disease when administered 3 days after serum transfer.






Thus, Abdegs might demonstrate therapeutic benefit in both early and established arthritis.

Could Abdegs really become a clinical alternative to IVIg? As Srini Kaveri, of INSERM, France, points out, "IVIg exerts its beneficial effect in a large number of diseases, whether antibody-mediated or T cell-dependent, including other inflammatory conditions with etiologies that are not yet established, and most importantly in immunodeficiencies. The mechanisms of action are extremely diverse." Furthermore, as Kaveri adds, "It is important to assess the immunological innocuity of such drug compounds."

Indeed, Ward and colleagues plan further investigations into the therapeutic potential of Abdegs in autoimmune diseases. "Our long term goal is to apply this approach to the treatment of human disease," Ward concludes.

***David Killock***

**Original article** Patel, D. A. *et al*. Neonatal Fc receptor blockade by Fc engineering ameliorates arthritis is a murine model. *J. Immunol*. doi:10.4049/jimmunol.1003780