IP throughout the life cycle of Xencor a biotech company

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Xencor
Proteins by Design

Xencor snapshot

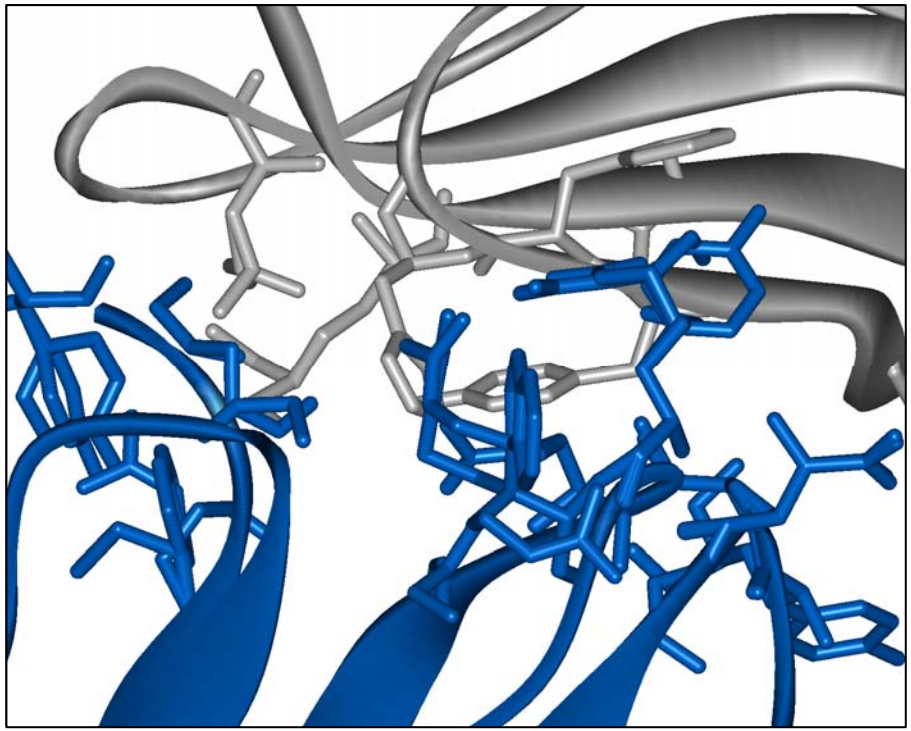
- **Biopharmaceutical company with proprietary platform technologies**
  - 21 US patents, >30 ex-US, >450 pending
  - Founded out of Caltech and free of third party encumbrances
  - Phase I start February 2008 - XmAb™2513 (anti-CD30)
  - 55 staff: 25 research, 15 development, 2 IP

- **Partnering is critical for growth strategy**
  - IP and product licensing

- **Strong investor base**
  - $140M raised since inception

Stafford Investments, LLC

Xencor designs new protein sequences to improve performance ➔ new IP



Starting protein sequence

Novel designed sequence(s)

Parent IP – Methods for protein design
Progeny IP – Designed protein drugs (real value driver)

Xencor's founding proposition: create novel protein IP

- Investor interest driven by 2 aspects of IP potential
  - Novelty and improved properties of new proteins allows access to huge markets
  - Ownership of protein design platform is barrier to entry
- Option for protein design patents from Caltech
  - Actually file and prosecute patents (Caltech pays)!!!
  - Low-cost, 12 month option to academic inventors
  - Necessary to attract potential investors ➔ $3.5M

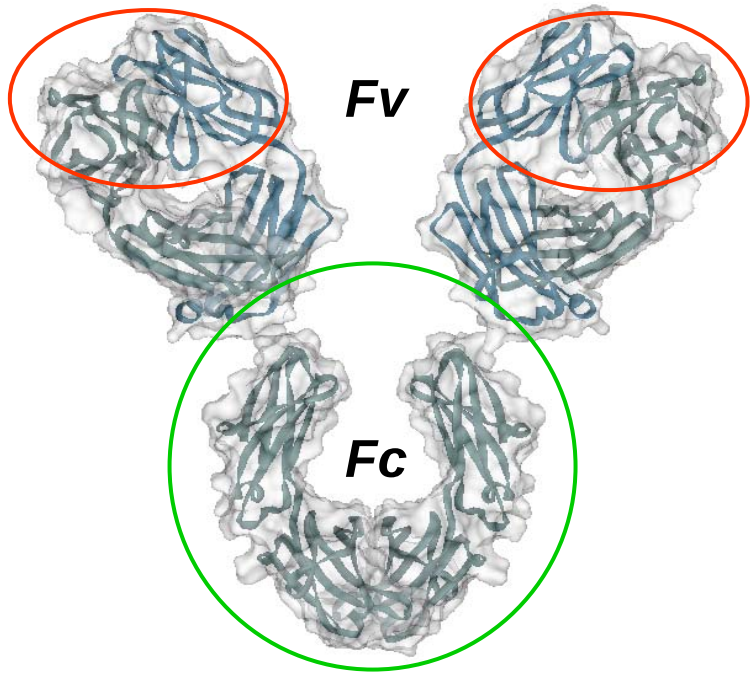
In pharmaceuticals, IP is pivotal
- Very long product cycles (FDA approval)
- Relatively difficult to workaround

Product development was constrained by competitive IP

- Biotech industry had matured
  - Multiple successful protein drugs and many potential new ones from molecular biology and genomics advances BUT…
- Extended patent life for most products blocked many approaches to improving drug performance
  - Composition of matter (DNA/protein sequence), with varying breadth
  - Methods of treatment add term and scope
- Extensive search for avenues with FTO

Monoclonal antibodies (mAb) provided opportunity but not in the usual places

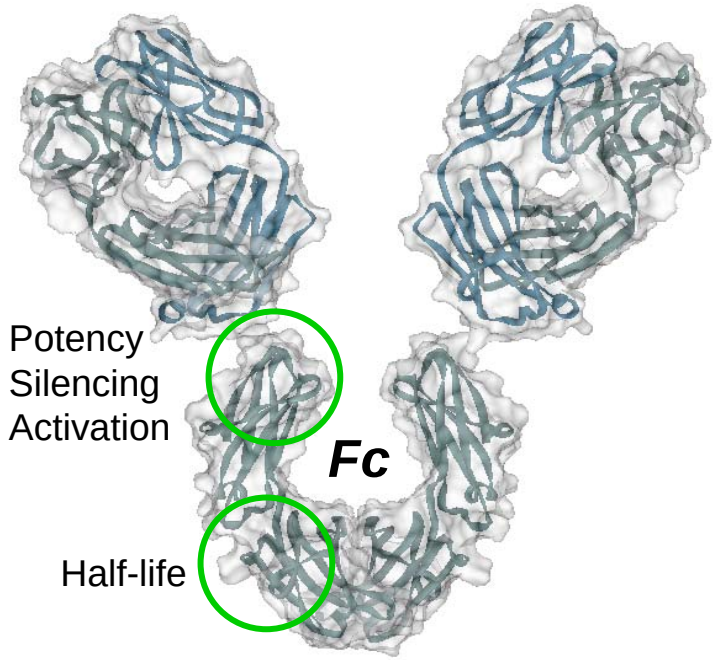
- mAb products are fastest growing segment in pharma (>$10B in 2007)
  - Multiple blockbusters in previously intractable diseases
- Fv region: Very very dense IP for creating new mAb and optimizing Fv performance, key to 1st gen mAbs
- Fc domain: The forgotten part, relatively little IP



Dense (and litigious) competition in Fv motivated Xencor to develop new approach for mAb optimization

Fc region has powerful, untapped biology motivating an IP land grab

- XmAb™ redesigned Fc domains
  - Enhanced cytotoxic potency
  - Improved half-life
  - Immune system regulation
  - Broad therapeutic applicability
- Several companies pursued Fc
  - Speed to filing determined winner
  - Losers have dropped out of the segment



Major investment in generating data and filing apps created dominant Fc IP for Xencor

1 issued US patent, >30 pending worldwide

- March 2008 status

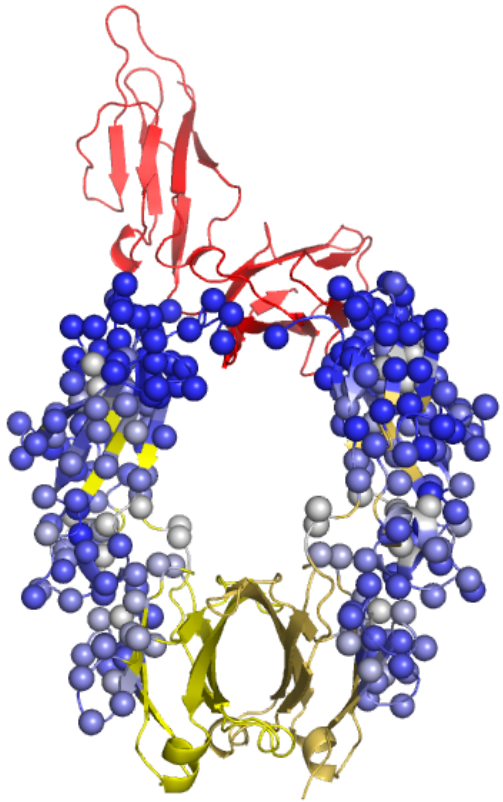
Fc patent portfolio

- Computational design speed won the race
- Saturate Fc structure for future exploitation
- Saturate Fc structure to block future competitors
- Hopscotch around earlier competition

Two competitors licensed and invested in Xencor

Genentech
IN BUSINESS FOR LIFE

MedImmune, Inc.



Fc IP was THE driver of $60M private financing for Xencor

IP diligence for financing and licensing was intense and sophisticated

- Lead investor was a main competitior, MedImmune
  - They sought access to IP they missed
- Investment was dependent on Xencor exclusivity and FTO for the Fc technology
- Investment syndicate repeated diligence, but much less intensely

- Portfolio had not advanced beyond first office action for first cases
  - Confidence in ability to predict PTO performance was key
  - Confidence in PTO is steadily dropping, creating difficulty for biotech funding

Xencor's development is an example of the high importance of IP across biotech

- No IP = no investment for technology platforms
- Product development depends on FTO path and exclusivity
  - Needed to continually attract investment in the very high cost clinical development of new drugs

Major emerging risk for biotech companies and investors: An under-funded and demoralized USPTO leads to <u>unpredictable</u> FTO and exclusivity