

ADALTA

**FOCUSED ON
DEVELOPING ITS
SHARK ANTIBODY
PLATFORM**





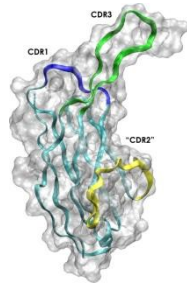
AdAlta Technology

Diverse libraries of antibody like molecules for diagnostic or therapeutic application:

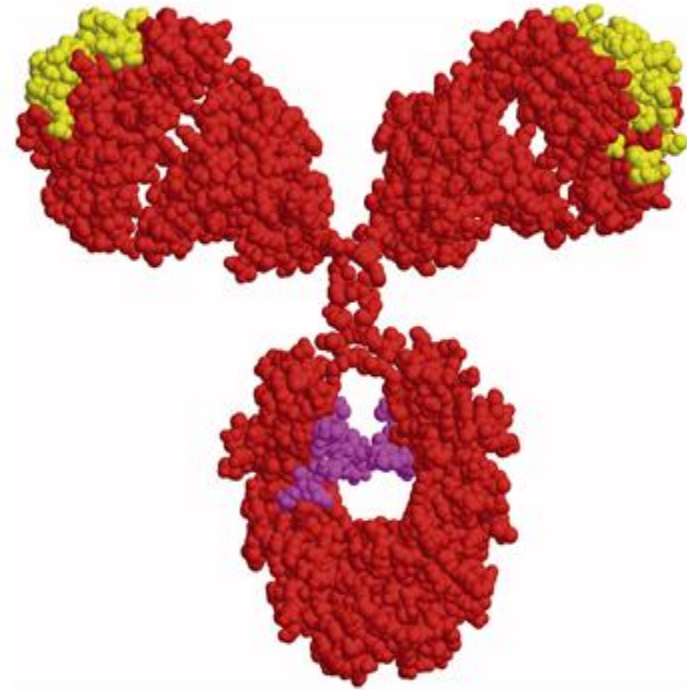
- Shark antibody library
- i-body library (structurally equivalent to shark antibody, however uses a human protein as a scaffold and therefore lower risk of immunogenicity)



Why Shark Antibodies?



Shark

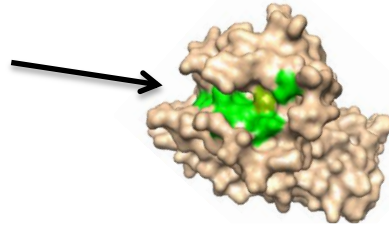


**Monoclonal
Antibody**

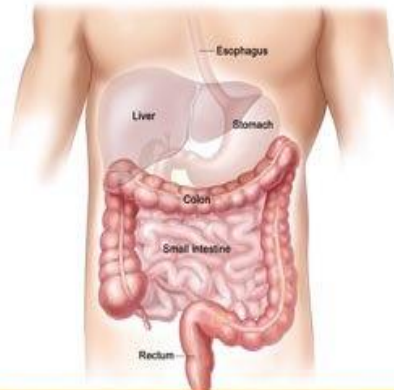
Shark antibodies are 1/10 the size of human antibodies but retain exquisite specificity and high binding strength



Why Shark Antibodies?

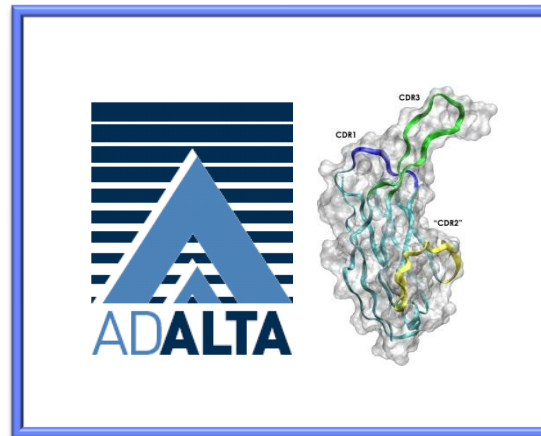


**Address targets
inaccessible to
conventional antibodies**



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Extreme stability



**Tailored half life
In humans**



**Low cost of
manufacture in
microbes**



Stability

- Small and stable (15KDa)
- Single cysteine within scaffold, in some cases additional cysteine between CDR1 and CDR3 present
- Stable at low pH and high temperature
- Shark antibody evaluated in urea, boiling, digestive enzymes in gut tissue from rat
- i-body evaluated at 80°C for an hour and showed no signs of degradation



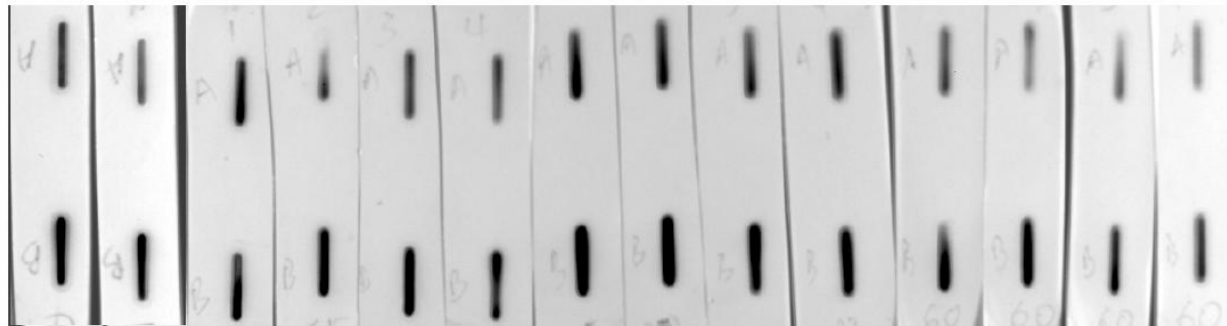
Long Term Heat Stability



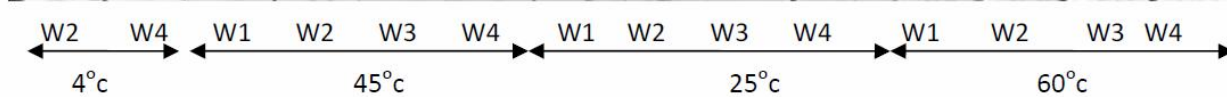
- 4 week stability trial at 4^oc, 25^oc, 45^oc and 60^oc
- Both liquid and lyophilised evaluated in ELISA and Biacore
- Stability on nitrocellulose also examined
- FIND provided R&D \$

Stability IgNAR: Temperature

IgNAR 1

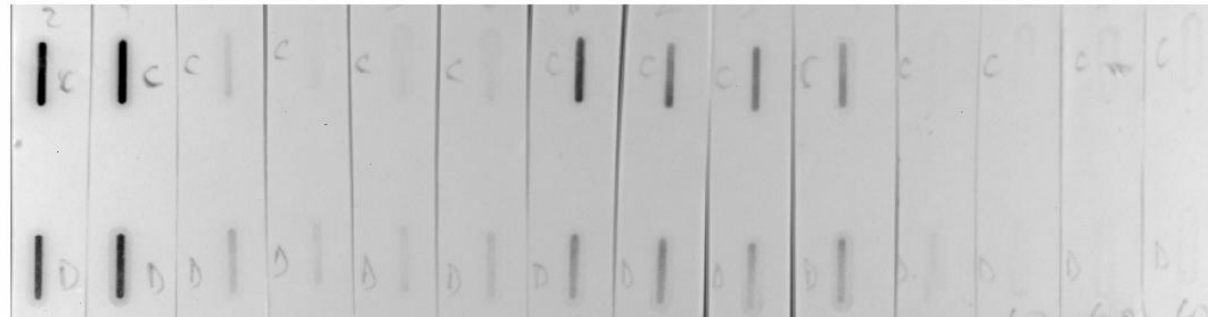


IgNAR 2

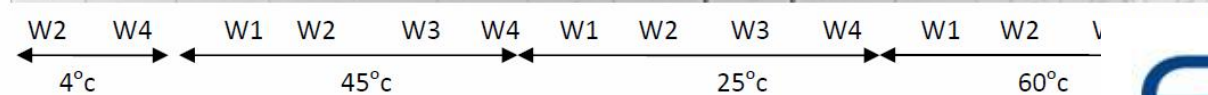


W2 W4 W1 W2 W3 W4 W1 W2 W3 W4 W1 W2 W3 W4
 4°C 45°C 25°C 60°C

Mab 1



Mab 2



W2 W4 W1 W2 W3 W4 W1 W2 W3 W4 W1 W2 W3 W4
 4°C 45°C 25°C 60°C

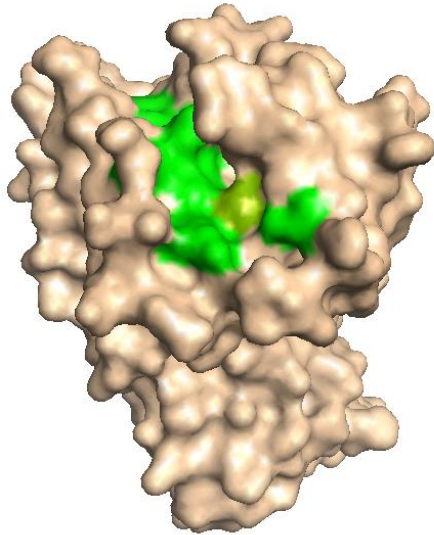


Alternative Targets

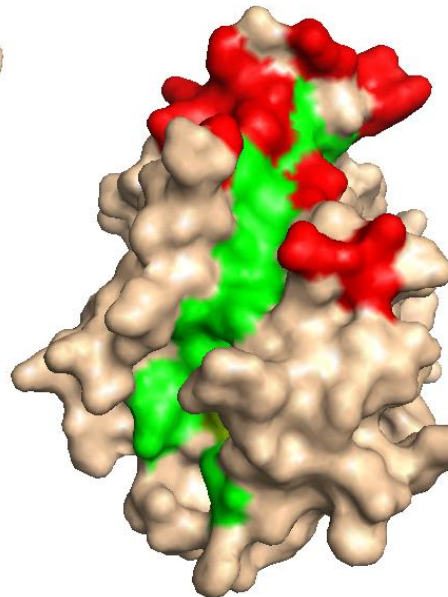
- Extended CDR3 potentially able to bind grooves/receptors/clefts potentially ideal for GPCRs or ion channels - target classes traditionally difficult using monoclonal antibodies
- The shark antibody and i-body offers advantage of specificity compared with traditional small molecule approaches with GPCR/ion channel targets
- Phage display technology allows multiple techniques to identify binders
 - Cell panning
 - Membrane panning
 - Panning on GPCR magnetic bead technology or lipoparticles

Cavity binding

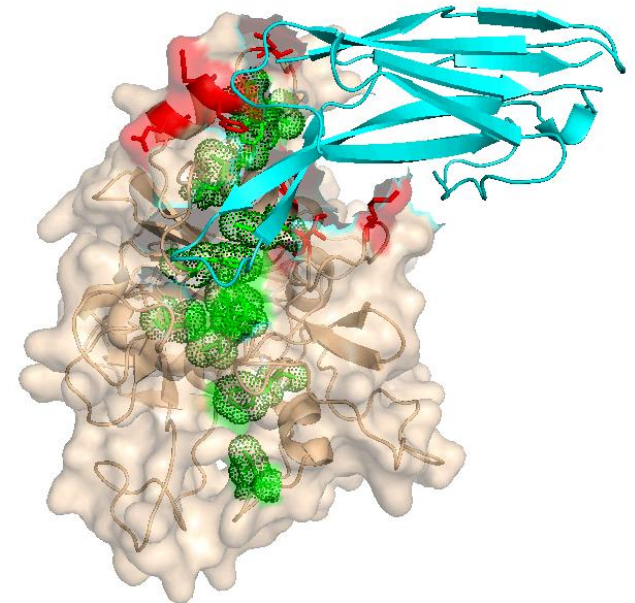
Shark antibody binding
into hydrophobic groove of
AMA1 protein



Side view of AMA1
hydrophobic
groove

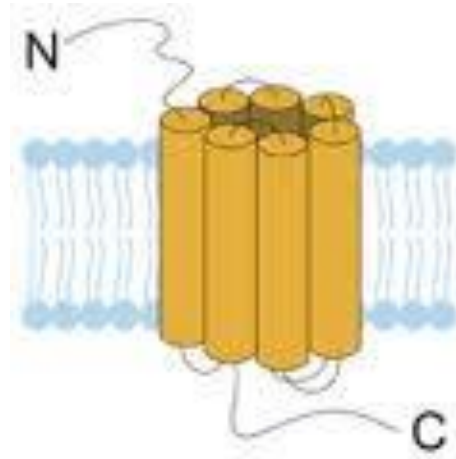


Top view of AMA1 with
polymorphisms





Access to Difficult Targets



- **Confidential European partner** – AdAlta to screen the AdAlta libraries on the partners GPCR target
- Partner provides R&D \$ and materials



Technology Collaborations



Compare the stability of the shark antibody compared to monoclonal antibodies for one month at 60°C.



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Evaluate the capacity of the shark antibody to cross the BBB using the insulin receptor.



Evaluate the shark antibody as an imaging agent.



Confidential European Partner – AdAlta to screen the AdAlta libraries on the partner's GPCR target.



Value of Partnerships for AdAlta

- Upfront non-diluting cash for R&D
- Materials
- Access to partners expertise
- External validation of technology while not giving away platform (deals to date on a target basis)
- External validation for shareholders and other potential partners of technology and R&D team
- Potential long term milestones and royalties
- Potential for long term partnerships



Partnering Strategy for AdAlta

- Partnerships need to be focused on validating the shark antibody and i-body technologies
- Identifying partners that can contribute both cash & expertise
- Global partnering in as many different areas as possible but with companies that added significant value to the development of various aspects of the platform
- Open minded about deal structure and terms given stage of technology



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