Master Investor

April 23, 2016

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Safe Harbor Statement

This presentation contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. These statements are based upon our current expectations and speak only as of the date hereof. Our actual results may differ materially and adversely from those expressed in any forward-looking statements as a result of various factors and uncertainties, including, without limitation, our developmental stage and limited operating history, our ability to successfully and timely develop products, enter into collaborations and achieve other projected milestones, rapid technological change in our markets, demand for our future products, legislative, regulatory and competitive developments and general economic conditions. Our Annual Report on Form 10-K, recent and forthcoming Quarterly Reports on Form 10-Q, recent Current Reports on Forms 8-K, and other SEC filings discuss some of the important risk factors that may affect our ability to achieve the anticipated results, as well as our business, results of operations and financial condition. Readers are cautioned not to place undue reliance on these forward-looking statements. Additionally, Arrowhead disclaims any intent to update these forward-looking statements to reflect subsequent developments.

Financial and Market Data

NASDAQ: ARWR	
Recent Share Price (April 22, 2016)	$6.26
Shares Outstanding (including preferred as converted)	62m
Market Cap	$388m
Cash (12/31/15)	$76.6m

Clinical Programs in Hepatitis B and Liver Disease associated with Alpha-1 Antitrypsin Deficiency

Targeted RNAi Therapeutics

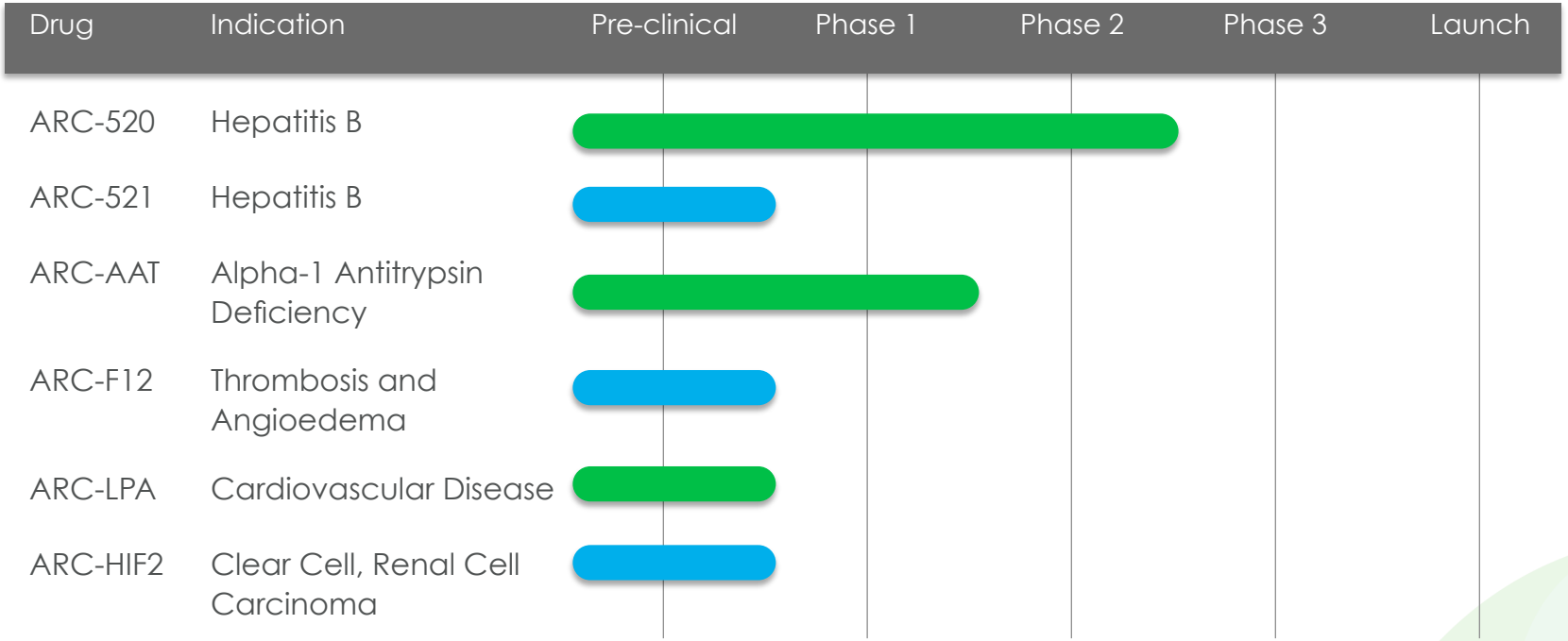
Comprehensive Platform Built via Roll-up Strategy

Acquired Roche RNAi business 2011
Acquired Novartis RNAi business 2015

- RNAi enables us to silence target genes
- Many diseases involve the production of harmful proteins
- We turn those off
- Highly specific
  - Decrease chances of side effects
- Very Powerful
  - Potentially silence any gene
  - Faster development/lower risk profile compared to traditional drugs

Monetize through development of multiple drugs

Pipeline



- RNAi Platform play with attractive clinical candidates
- Large HBV opportunity with novel first-to-the-clinic approach
- ARC-AAT: dosing P1b in Australia and Europe

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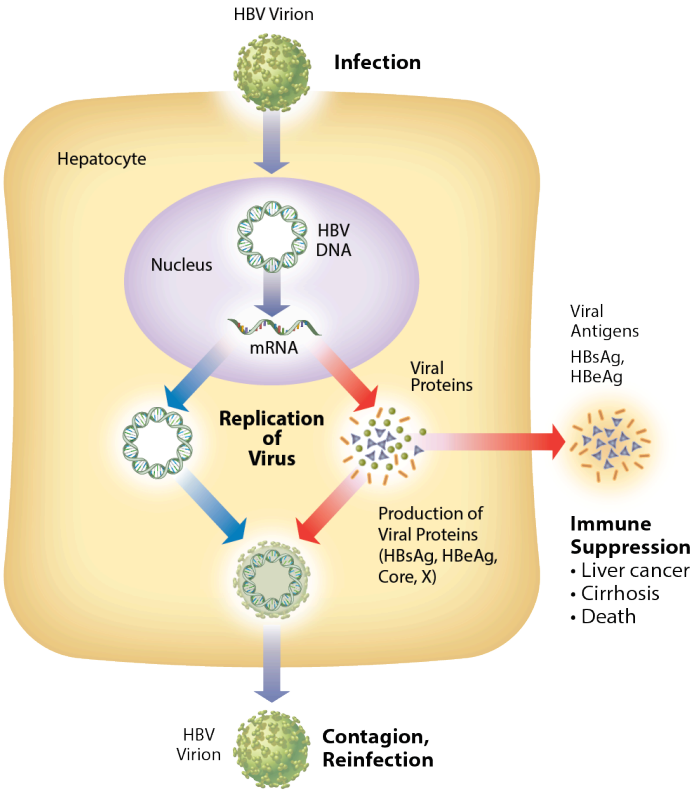
Hepatitis B

- HBV is the world's most common serious liver infection
  - 350-400 million chronic infection (1 in 20 people on the planet)
- In 1/3 of patients, HBV can lead to cirrhosis and liver cancer
- HBV is responsible for 80% of primary liver cancer, which is almost always fatal
- Without appropriate monitoring and treatment, 1 in 4 people with chronic HBV will die of liver cancer or liver disease

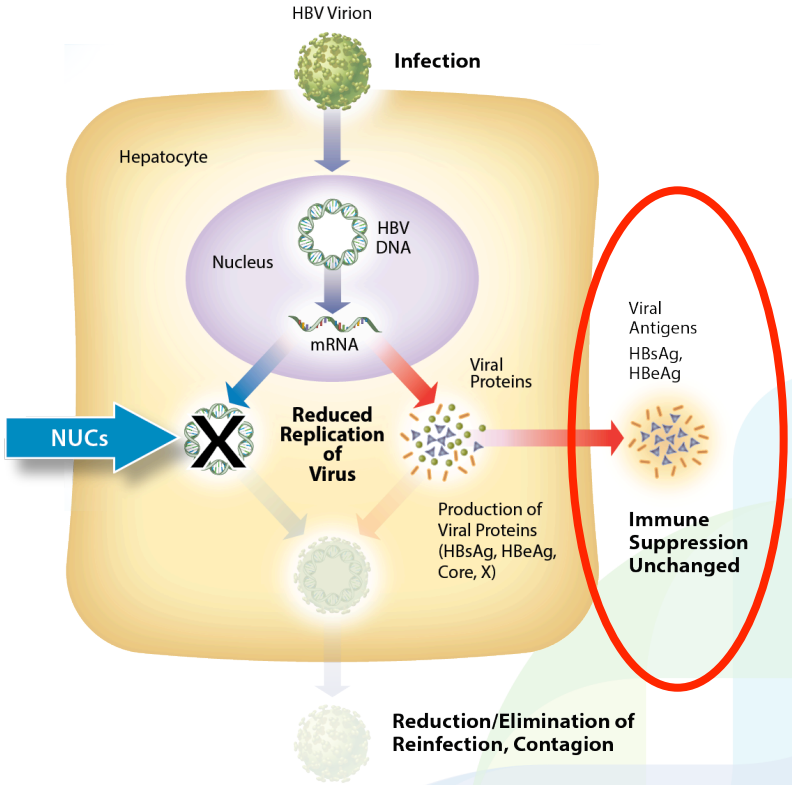
In a post HCV world, HBV is the next great liver challenge

HBV Biology and Current Standard of Care

Untreated

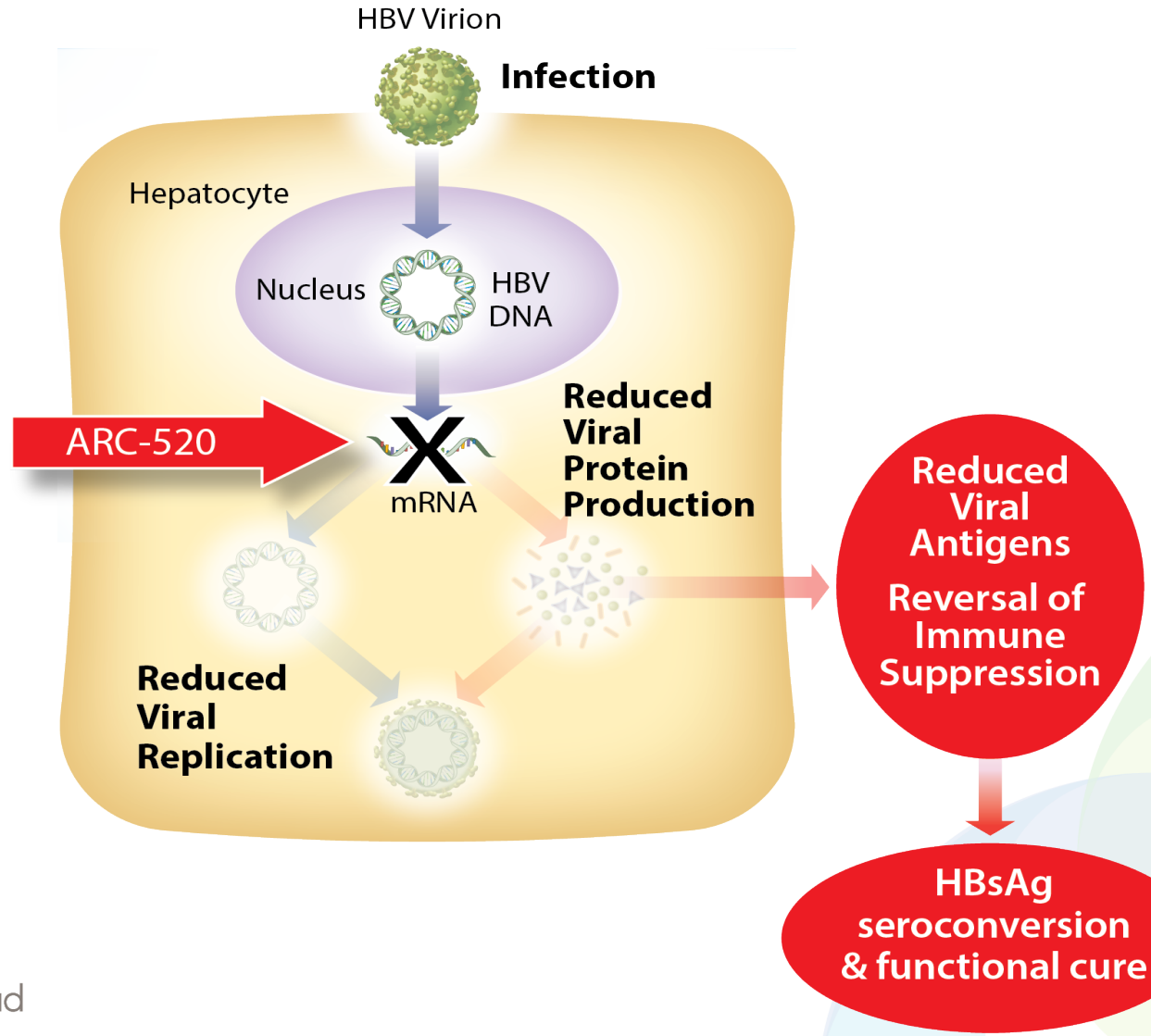


Nucelotide/side analogs



NUCs are not curative and require lifelong therapy

Theory of ARC-520: Reach Functional Cure



ARC-520 Safety Profile

Over 150 people have received doses of ARC-520

- Well tolerated across all studies
- No signs of end organ toxicity
- No discontinuations due to AEs

ARC-520 has been very well tolerated

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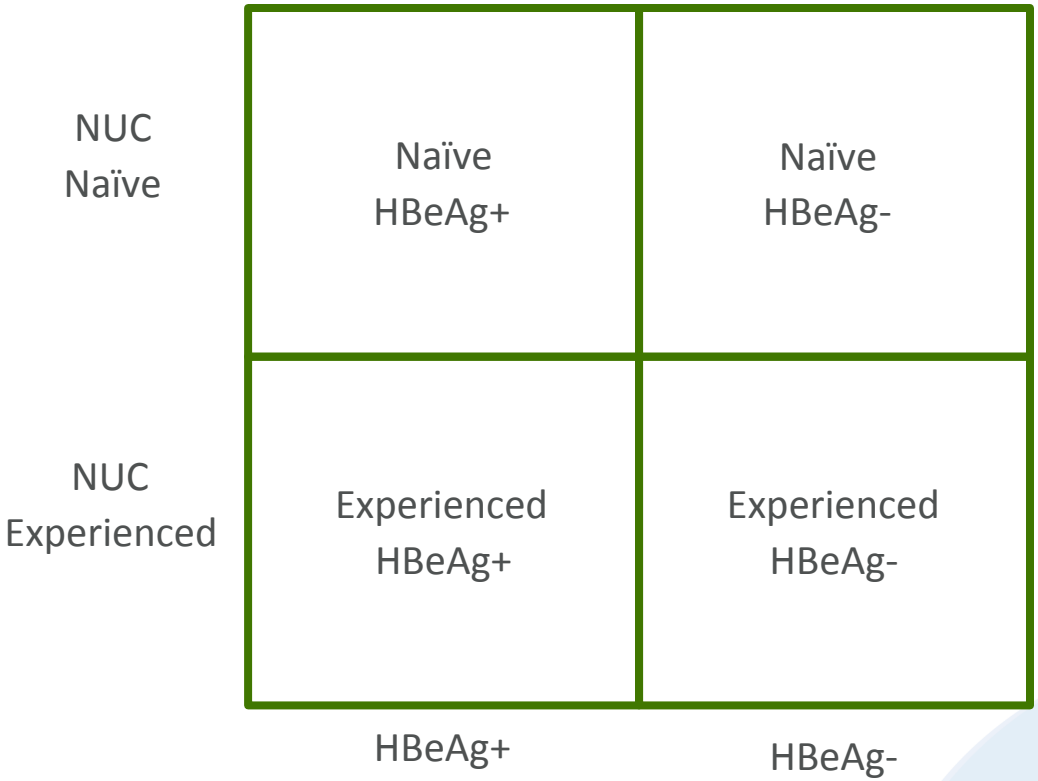
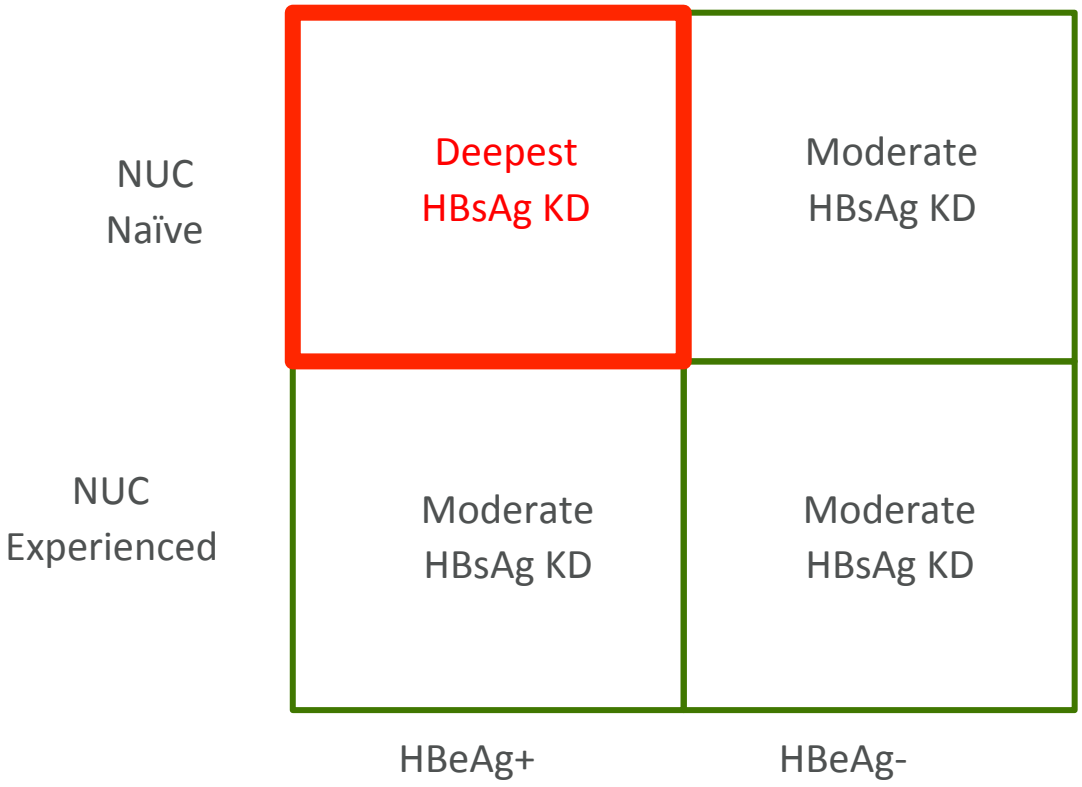
Learned That There Are 4 Subgroups in HBV

Think of the groups as quadrants
Defined by HBeAg status and NUC experience

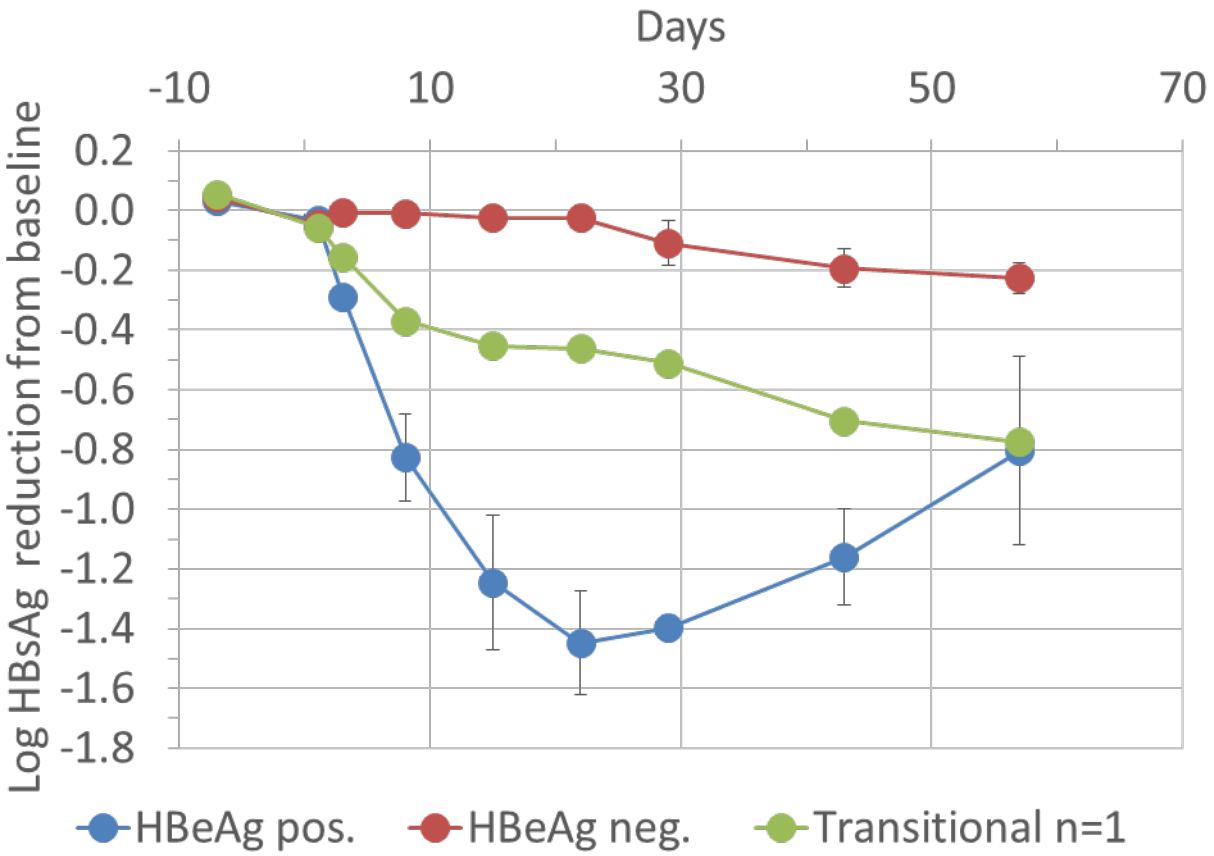


Active in All Subgroups; Most Potent in One



~50% of US market in this subgroup
~40% of Asian market in this subgroup
~33% of European market in this subgroup

Deep and Durable HBsAg KD: Naïve Patients



Deepest single dose KD
ever demonstrated in humans in the field

What About the Rest of The Market

ARC-521

- Safety expected = ARC-520
- Optimized to include other subgroups
- Validated in chimps
  - >99% KD
- Complement to ARC-520
- IND or equivalent by June 2016

De-risked program with safety/activity of ARC-520, solid expectation of activity in all patient populations

HBV Clinical Programs

- ARC-520 multiple dose P2b studies underway
  - 2002: ARC-520 + NUCS in e- NUC-experienced patients (Europe/Asia)
    - Expected to complete enrollment in 2016
  - 2003: ARC-520 + NUCS in e+ NUC-experienced patients (Europe/Asia)
    - Expected to complete enrollment in 2016
  - 2004: ARC-520 + NUCS in e+ NUC-experienced patients (US only)
    - Expected to complete enrollment in 2016
  - 2001 extension: ARC-520 + NUCS in e-/e+ NUC-experienced/naïve patients (open label)
    - Expected to complete enrollment in 2016
  - 2007: Long term open label extension study for 2002 & 2003
  - Monarch (2008) combination studies: : ARC-520 alone; ARC-520 + NUCS + other agents in NUC-naïve patients (open label)
    - Monotherapy and with interferon actively enrolling now
    - Expect additional arms with new combinations this year and beyond
- ARC-521 in clinic in 2016
  - Expect IND or equivalent by June 2016

Alpha-1 Antitrypsin Deficiency

- AATD is a large scale orphan disease
  - Alpha-1 foundation estimates 100,000 in the US
- Mutated AAT protein gets stuck in liver cells: low levels in circulation and accumulation in liver

Pathophysiology

Lung

Tissues susceptible to damage by neutrophil proteases: COPD

Controlled with enzyme replacement therapy

Liver

Accumulation of mutant Z protein causes clinical liver disease

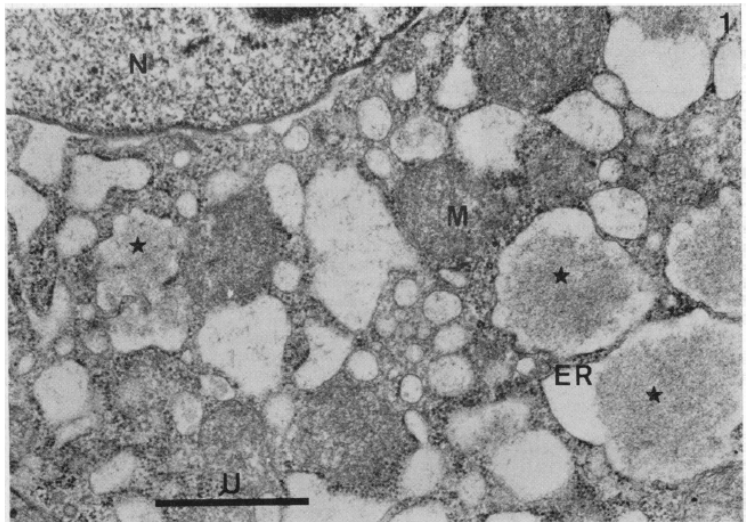
No current treatment

ARC-AAT Mechanism of Action

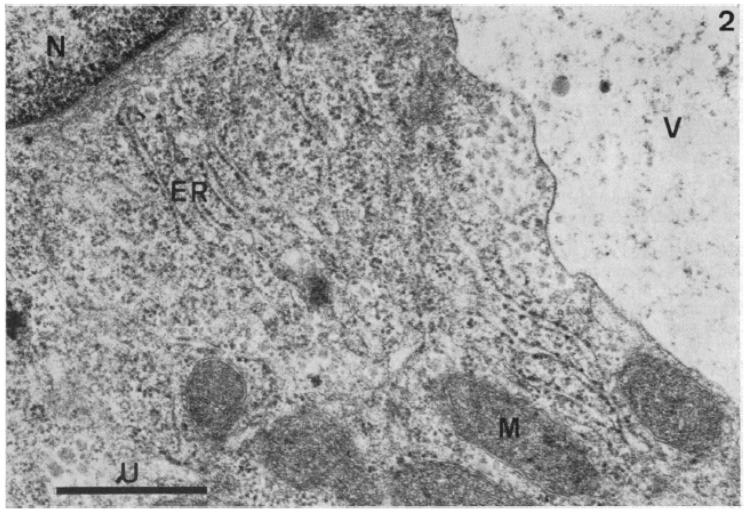
ARC-AAT designed to stop Z-AAT production by silencing AAT gene to:

- Prevent accumulation of disease causing protein
- Allow clearance of accumulated protein
- Prevent repeated cycles of cellular damage and tissue repair
- Reverse fibrosis associated with prior damage by allowing repair

PiZZ phenotype (diseased)



Pi null phenotype (normal)

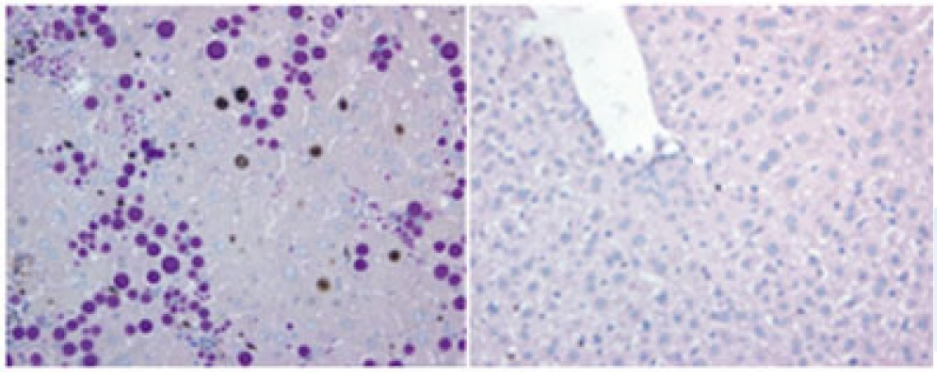


Feldmann G etal., *Gut* 1975

Mouse Model Mirrors Human Adult Disease

The transgenic PiZ mouse model expresses the human Z-mutant AAT gene (Z-AAT) and recapitulates the human AATD-associated liver phenotype:

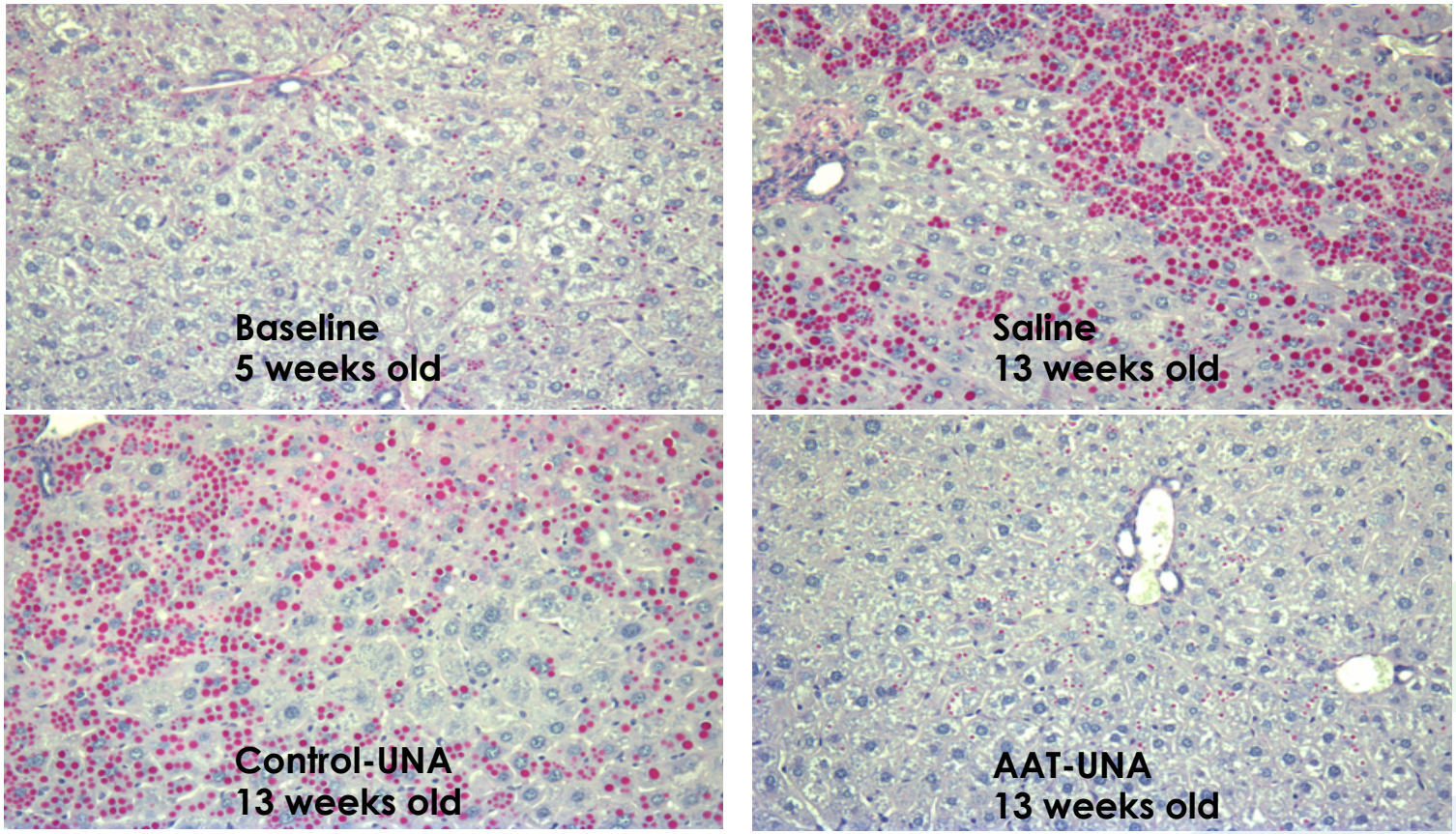
- Hepatocytes produce high levels of human Z-AAT
- Hepatocytes are unable to efficiently process and secrete the Z-AAT
- Z-AAT forms polymers that accumulate in large "globules" within the hepatocytes.
- These globules stress the hepatocytes, eventually leading to fibrosis and hepato-cellular carcinoma.



Rudnick DA et al., *Hepatology*. 2004

Reduction of Z-AAT Liver Globules

4 x q2w dosing



Liver globule burden is reduced after just two months of ARC-AAT treatment

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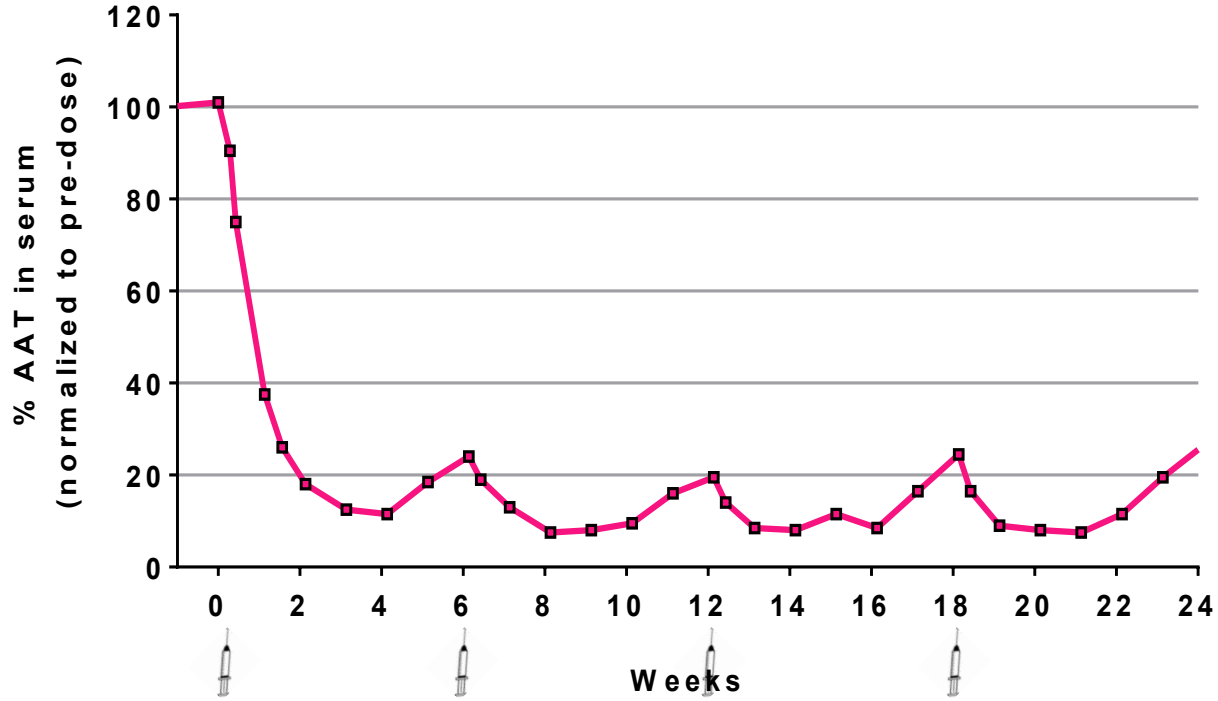
Repeat Dosing in Monkeys



~90% reduction of serum AAT after first injection of ARC-AAT
Long duration of effect: ~80% reduction at 6 weeks

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ARC-AAT Phase 1 Clinical Plan

- Single ascending dose P1 study ongoing in Australia and Europe
- Healthy volunteers and AATD patients
- **Primary Objectives:**
  - Determine the safety and tolerability of escalating doses of ARC-AAT
  - Evaluate the pharmacokinetics of different doses
- **Secondary Objectives:**
  - Evaluate the depth and duration of decline in serum total alpha-1 antitrypsin levels
  - Time for serum alpha-1 antitrypsin levels to return to baseline

ARWR

- **Milestone-rich 2016**
  - P2b ARC-520 studies
    - Complete enrolling 2002
    - Complete enrolling 2003
    - Complete enrolling 2004
    - Complete enrolling 2001 extension (open label, so reporting flexibility)
    - Complete enrolling initial MONARCH cohorts (open label, so reporting flexibility)
    - Continue enrolling 2007 long term extension (open label, so reporting flexibility)
  - ARC-521 in the clinic
  - Complete ARC-AAT P1 in healthy volunteers and patients
  - Launch ARC-AAT P2 studies
- **Pipeline**
  - ARC-F12 in the clinic in 2017
  - ARC-LPa in the clinic in 2017
  - ARC-Hif2 in the clinic in 2017
  - Additional candidates coming