CSE: AGN | OTCQB: BTHCF | XFRA: AGW

REVISED August 7, 2019

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Generally, forward-looking information can be identified by the use of forward-looking terminology such as "plans", "expects", or "does not expect", "is expected", "budget", "scheduled", "estimates", “projects”, “targets”, "forecasts", "intends", "anticipates", or "does not anticipate", or "believes" or variations (including negative and grammatical variations) of such words and phrases or state that certain actions, events or results “likely”, "may", "could", "would", "might", or "will be taken", "occur", or "be achieved". Forward-looking information is based on the opinions and estimates of management at the date the information is made, and is based on a number of assumptions and is subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward looking information, including without limitation: (i) the availability and continuation of financing; (ii) the effectiveness of the Company’s technology and the Company’s ability to bring its technology to commercial production; (iii) continued growth of the global medical technology market; (iv) the company’s limited operating history, difficulty in forecasting sales and limited market for the securities; and (v) a continued minimal regulatory/legal burden concerning the development, production, sale and use of the Company’s technology.

Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such information. Accordingly, readers should not place undue reliance on forward-looking information. Algernon and its directors, officers and employees disclaim any obligation to update any forward-looking statements, whether as a result of new information, future events or results or otherwise, except as required by applicable law. Accordingly, current and potential investors should not place undue reliance on forward-looking statements due to the inherent uncertainty therein. All forward-looking information is expressly qualified in its entirety by this cautionary statement.

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COST

$2.5B

CURRENT COST TO DEVELOP AN FDA-APPROVED DRUG

INCREASING AT A RATE OF **8.5% annually**

DRUG DEVELOPMENT TODAY

>90% OF DRUGS FAIL BEFORE PHASE II

Drug development costs have ballooned to nearly $2.5B, with an average timeline of 15 years.

And most drugs fail to reach market.

TIME ▶

J. Health Economics (2016) 47: 20-33

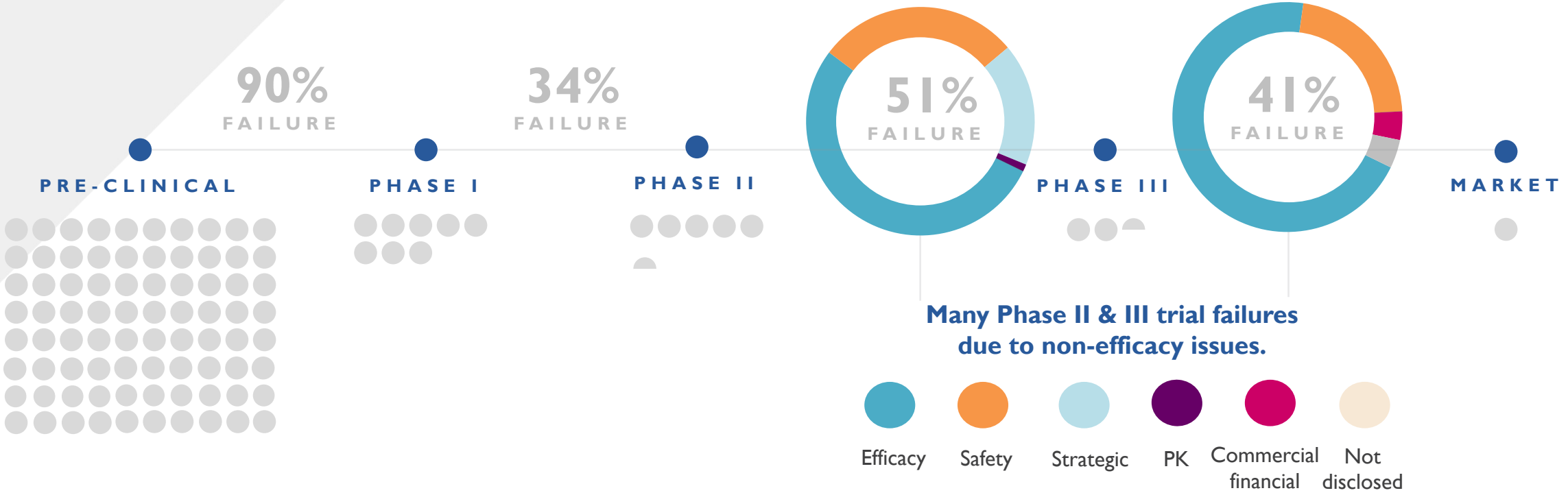
ALGERNON PHARMACEUTICALS

DRAMATICALLY REDUCE RISK, TIME & COST RELATED TO SAFETY

Algernon's drug development strategy repurposes SAFE, approved foreign drugs

(1) into known animal models of disease vs. accepted controls

(2) for **efficient, low risk entry Phase II trials.**



Biostatistics (2019) 20:273-6
Nature (2011) 477:526-8

ALGERNON PHARMACEUTICALS

ALGERNON'S VALUE PROPOSITION

Identify multiple approved drugs not available in US or Europe
No risk of generic competition

Conduct preclinical testing on promising candidates

MOVE DIRECTLY INTO PHASE II TRIALS

Up to 50% of Phase II trials achieve positive results

ALGERNON PHARMACEUTICALS

PRODUCT CRITERIA

ALGERNON'S NOVEL REPURPOSING STRATEGY

Algernon reduces corporate risk by having several chemically distinct phase II ready compounds selected using the following criteria:

Safety
Using approved (not in US or Europe) drugs reduces risk of study failure

Effectiveness
All Leads comparable or better activity in gold standard models. Reduced efficacy risk failure in studies

Speed to market
Rapid entry phase II trials or reduced development times. **Maximize patent life**

Pricing
Original drugs not approved in US or EU eliminates risk off label prescriptions (major concern with repurposing strategies)

IP
Method of Use and Markush derivatives patents filed to secure lead compound and follow-on analogues.

SAFETY HISTORY

20+ YEARS

REPURPOSING: CASE STUDIES

COMPANY	DRUG	OLD INDICATION	NEW INDICATION	NOTES
BIOGEN	**Tecfidera**	Psoriasis	Multiple sclerosis	Drug only approved in Germany (50 yrs) Blockbuster (>US$1B in Sales)
ASPREVA	**Cell Cept**	Organ transplant	Lupus	Orphan strategy – **sold $1B**
MEDIVATION	**Dimebon**	Allergies	Alzheimer's Disease	Drug only approved in Russia **$400M deal** with Pfizer post Phase II
CELGENE	**Thalidomide**	Morning sickness	Cancer	Drug was withdrawn from the market Blockbuster (>US$1B in Sales) Purchased EntreMed's Thalidomide analogues

CLINICAL PROGRAMS – OVERVIEW

SMALL MOLECULE CLINICAL CANDIDATES

- **First-in-class** oral small molecule drugs (Markush structure patents filed on pharmacore)
- Strong in vivo studies with activity **better than current standard of care**
- Strong safety profiles **with no serious adverse events reported**

		DISCOVERY	PHASE I	PHASE II	PHASE III	MARKET
NP-135	**for NASH** **for CKD**	●	●		**Current candidates**	
NP-178	**For CKD** **for IBD**	●	●			
NP-160	**for NASH** **for CKD**	○	○			
NP-120	**for IBD** **for IPF**	○	○		**Future candidates**	
NP-251	**for CKD** **for IPF**	○	○			

ALGERNON PHARMACEUTICALS

CLINICAL PROGRAM OVERVIEW

DRUG SAFETY & HISTORY

Lead	Trials	Adverse Events	Notes
NP-135	~850 patients	• Rare nausea and vomiting • Headache, irritability, insomnia (avoid evening dosing) • No SAEs noted	• Available in Russia • Available in Ukraine as a supplement • Performance enhancing drug
NP-178	>11,000 patients	• No SAEs noted • Symptomatic relief of GI pain noted	• Available in Ukraine and Russia • Neurological drug • Top 10 drug in Russia based on sales
NP-120	>4000 patients	• No SAEs noted • Doses 5x expected dose safe for more than 3 months	• Available in Japan • Neurological drug
NP-160	>950 patients	• Drowsiness • No SEAs noted	• Withdrawn for sales reasons in 2018 • Originally a neurological drug in Russia
NP-251	Not disclosed	• Little reported in literature • No SAEs noted or expected	• Withdrawn for sales reasons in 2014 • Originally an Anti-allergy drug in Japan

CLINICAL PROGRAMS – OVERVIEW

INFLAMMATORY BOWEL DISEASE

Ulcerative Colitis & Crohn's Disease

COMPETITIVE ADVANTAGE

- **Clinical:** first-in-class oral small molecule therapies
- Less toxicity vs other oral drugs (ex. steroids, immunomodulators)
- Less expensive and easier to administer vs biological drugs

US$14.8B
GLOBAL MARKET By 2025

STATUS

- **2 Candidates:**
  1 active candidate (NP-178)
  1 future candidate (NP-120)
- **Safety:** No serious adverse events
- **Efficacy:** Comparable to standard of care

PRE-CLINICAL PROGRAMS – OVERVIEW

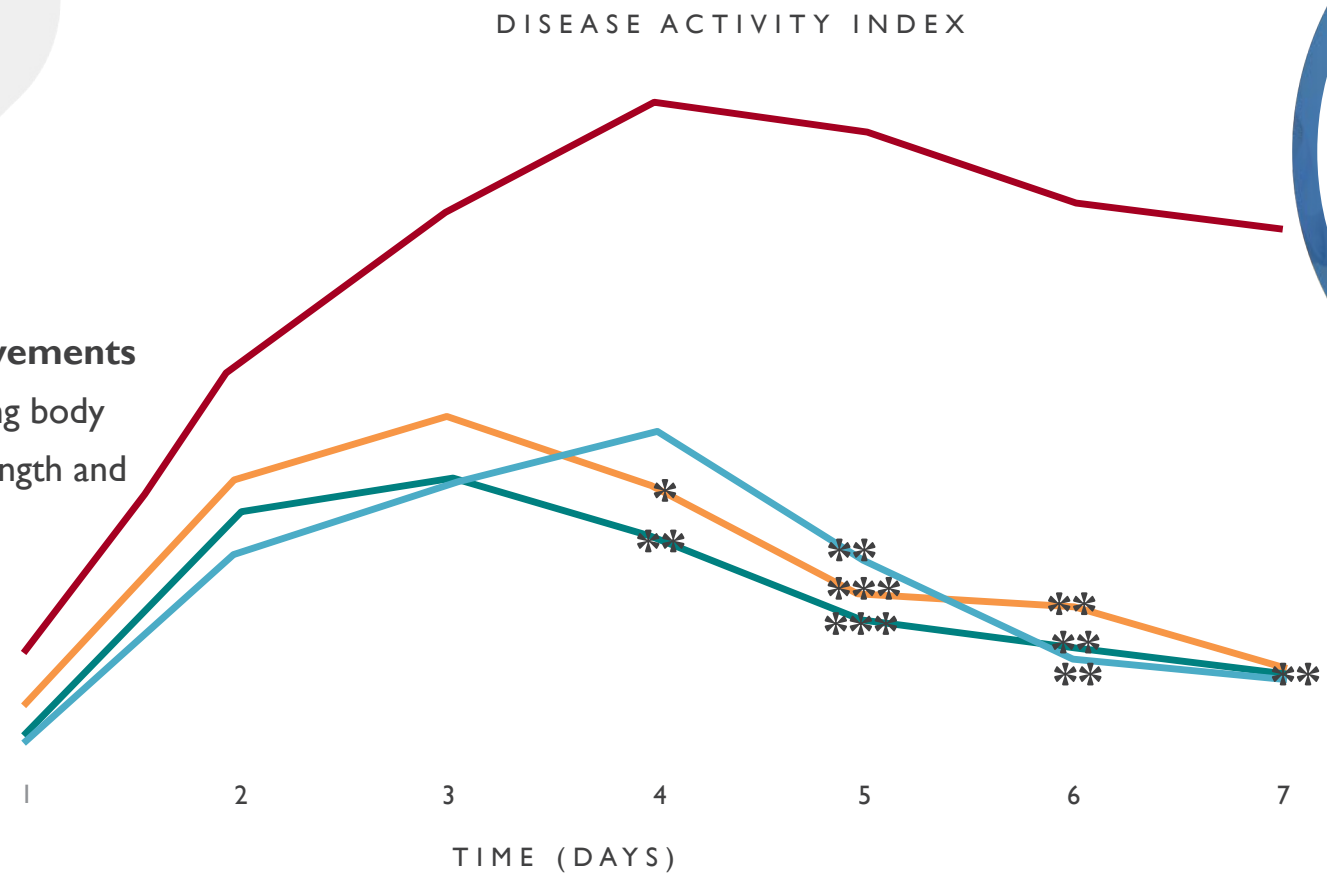
IBD – ULCERATIVE COLITIS

OXAZOLONE MODEL

- N=15 / arm
- Treatment Day 0-7
- Post Bonferroni corrected
- Once a day (QID) treatment
- Clinically relevant doses

Statistically significant improvements in multiple measurements including body weight, stool consistency, colon length and weight ratios and occult positivity

Up to 8% of UC patients can develop **fibrostenosis** which requires surgery and is a large unmet medical need



REDUCED SEVERITY

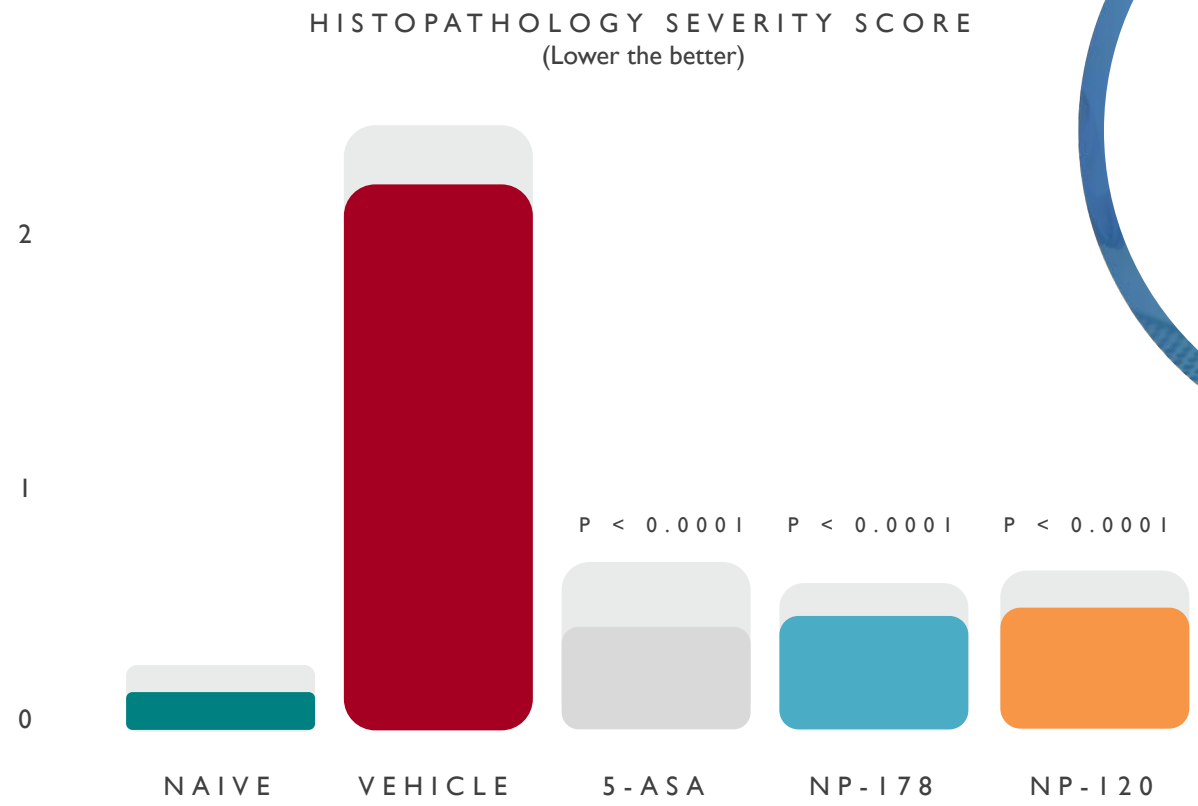
OF DISEASE AS WELL AS THE STANDARD OF CARE

* = p < 0.05
** = p < 0.01
*** = p < 0.001

ALGERNON PHARMACEUTICALS

CLINICAL PROGRAMS – OVERVIEW

IBD – ULCERATIVE COLITIS



REDUCED SEVERITY

OF DISEASE AS WELL AS THE STANDARD OF CARE

ALGERNON PHARMACEUTICALS

CLINICAL PROGRAMS – OVERVIEW

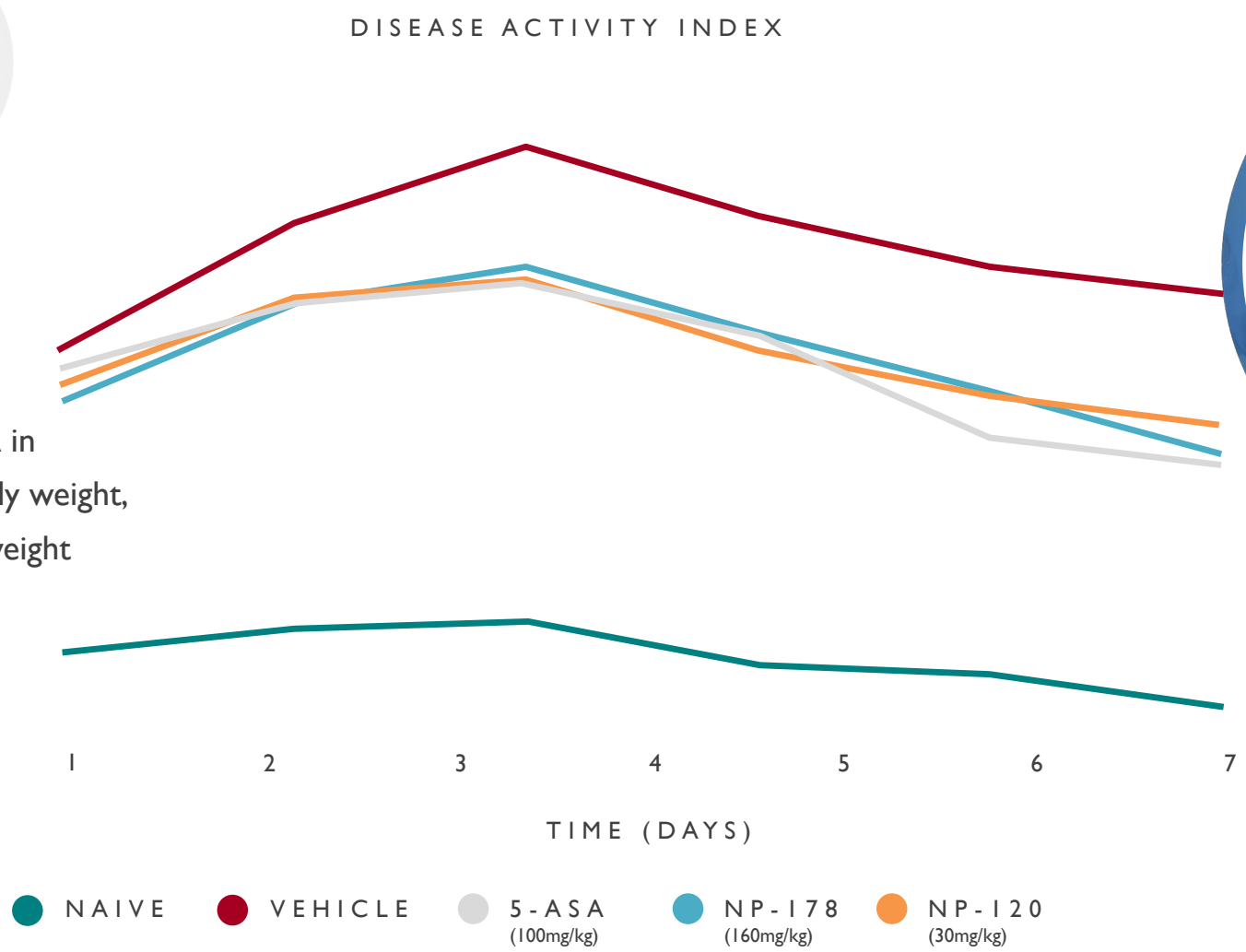
IBD – CROHN'S

TNBS MODEL

- N=15 / arm
- Treatment Day 0-7
- Post Bonferroni corrected
- Once a day (QID) treatment
- Clinically relevant doses

Similar improvements to 5-ASA in multiple measurements including body weight, stool consistency, colon length and weight ratios and occult positivity

Up to 50% of Crohn's patients can develop **fibrostenosis** which blocks the GI tract and requires surgery



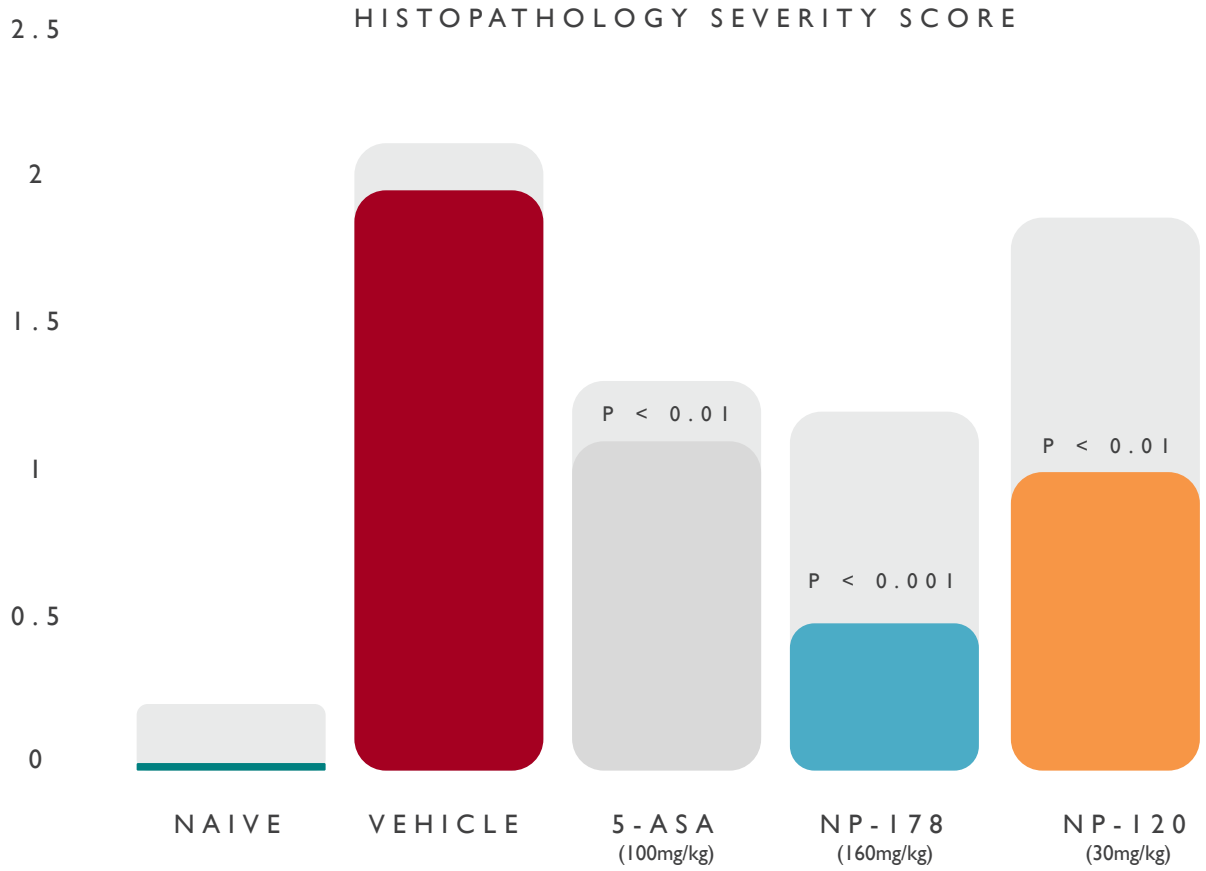
REDUCED SEVERITY

OF DISEASE AS WELL AS THE STANDARD OF CARE

ALGERNON PHARMACEUTICALS

CLINICAL PROGRAMS – OVERVIEW

IBD – CROHN'S



REDUCED SEVERITY

OF DISEASE AS WELL AS THE STANDARD OF CARE

ALGERNON PHARMACEUTICALS

CLINICAL PROGRAMS – OVERVIEW

IBD – PRODUCT POSITION

NP-178 & NP-120 POSITIONED TO SHIFT TREATMENT REGIME

TREATMENT PROGRESSION

ALGERNON PHARMACEUTICALS

CLINICAL PROGRAM

IBD TRIAL AND COMPARABLES

NP-178

Phase II Design Summary – Low Cost Trial to Provide Proof of Concept Data for Partnering

- 20 patients with active UC
- 15 weeks
- Open-label
- Primary Endpoint: #pts with 50% reduction in ulcer area and/or reduction of ES by 1 pt
- Secondary Endpoint: #pts with remission, % reduction in ulcer area, Geboes index change,
- Country: Australia or Ukraine
- Cost: CDN$1.2M

Validated Therapeutic Arena

SERVIER THERAPEUTICS	
OSE Immunotherapeutics €272M Pre-clinical	
JOHNSON & JOHNSON	
Protagonist $940M Pre-clinical	
GENENTECH	
Microbiota $534M Pre-clinical	Lodo $1B Preclinical

CLINICAL PROGRAMS – OVERVIEW

CHRONIC KIDNEY DISEASE

COMPETITIVE ADVANTAGE

- **Clinical:** Potential first-in-class oral small molecule therapies
- **Market:** Favorable product positioning, high unmet medical need in late stages of disease

US$17.4B
GLOBAL MARKET By 2025

STATUS

- **4 Candidates:**
  2 active candidates (NP-135, NP-178)
  2 future candidates (NP-160, NP-251)
- **Safety:** No serious adverse events
- **Efficacy:** Excellent compared to the standard of care

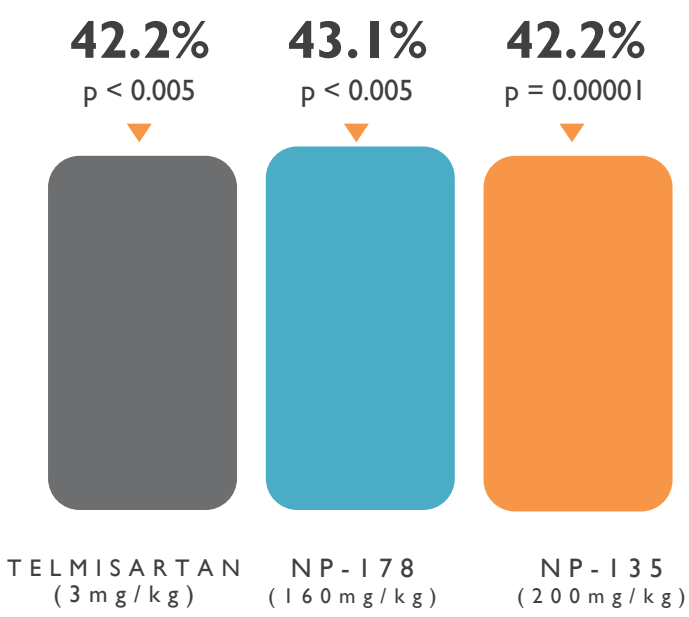
ALGERNON PHARMACEUTICALS

CHRONIC KIDNEY DISEASE – UUO MODEL STUDY 1

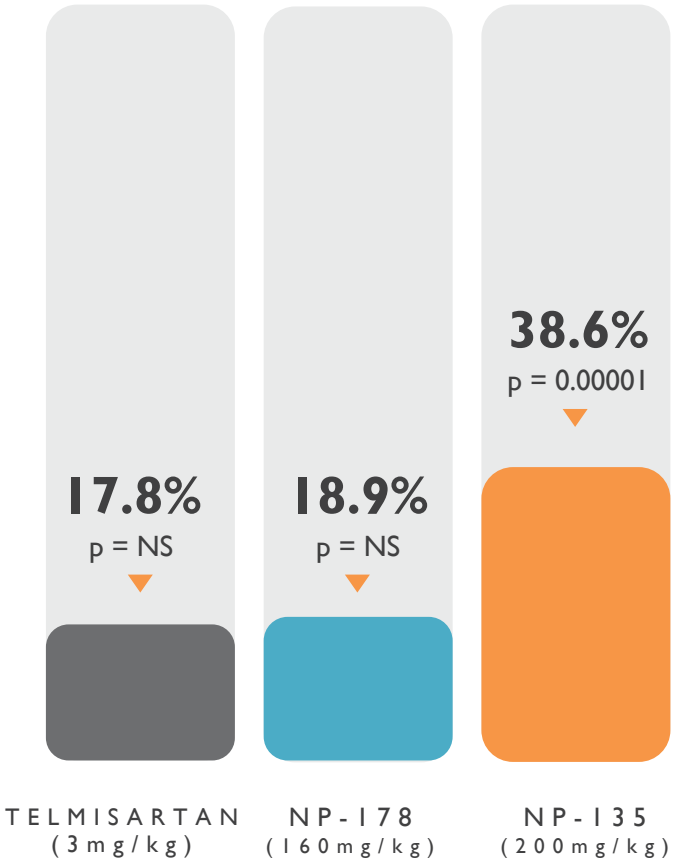
UNILATERAL URETER OBSTRUCTION MODEL

- N=8 / arm
- Treatment Day 0-14
- DMSO vehicle
- Post Bonferroni corrected
- Once a day (QID) treatment
- Clinically relevant doses
- Model of Interstitial Fibrosis
- UUO is also model of FSGS
- Independent 3rd party statistical review

FIRBROSIS REDUCTION(SIRIUS RED)



BLOOD UREA NITROGEN (BUN) REDUCTION



CHRONIC KIDNEY DISEASE – UUO MODEL STUDY 2

UNILATERAL URETER OBSTRUCTION MODEL

- N=10 / arm
- Start treatment Day 0-14
- **0.**5% CMC vehicle
- Post Bonferroni corrected
- *Indicates vs negative control
- Once a day (QD) treatment
- Clinically relevant doses
- Independent 3rd party stats review

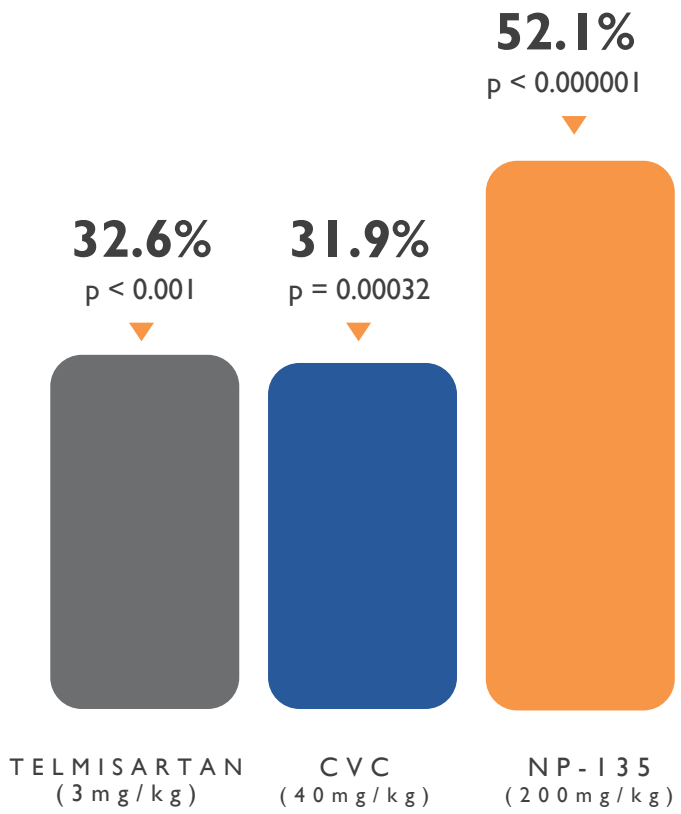
CVC = CENICRIVIROC

CVC is similar to Chemocentryx's lead CCR2 inhibitor CCX-140 which had positive Phase II clinical trial data for CKD

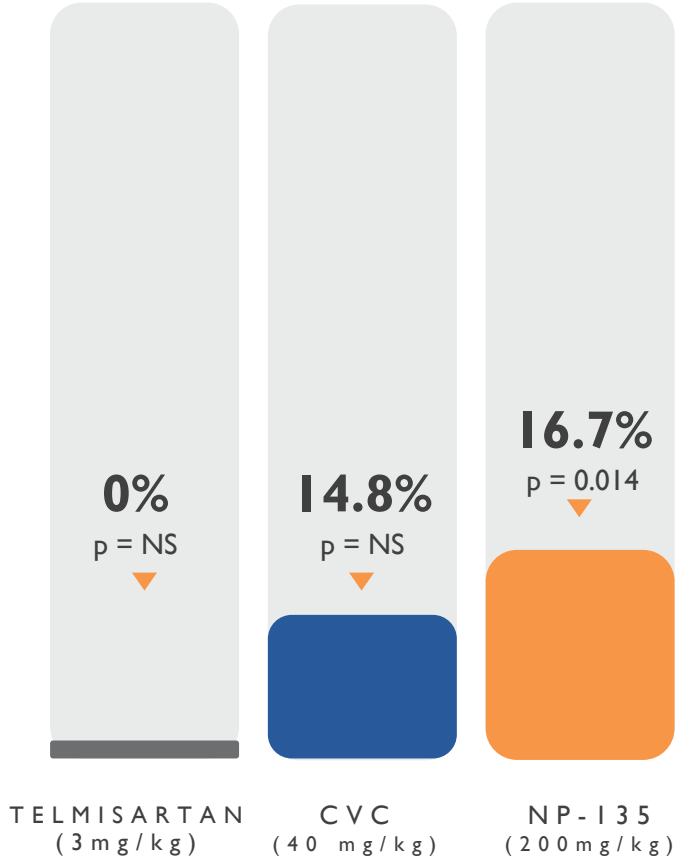
Back up candidates also reduced fibrosis

NP-160 (40 mg/kg) 57.6% (p<0.000001)
NP-251 (90 mg/kg) 50.6% (p<0.000001)

FIRBROSIS REDUCTION(SIRIUS RED)



BLOOD UREA NITROGEN (BUN) REDUCTION

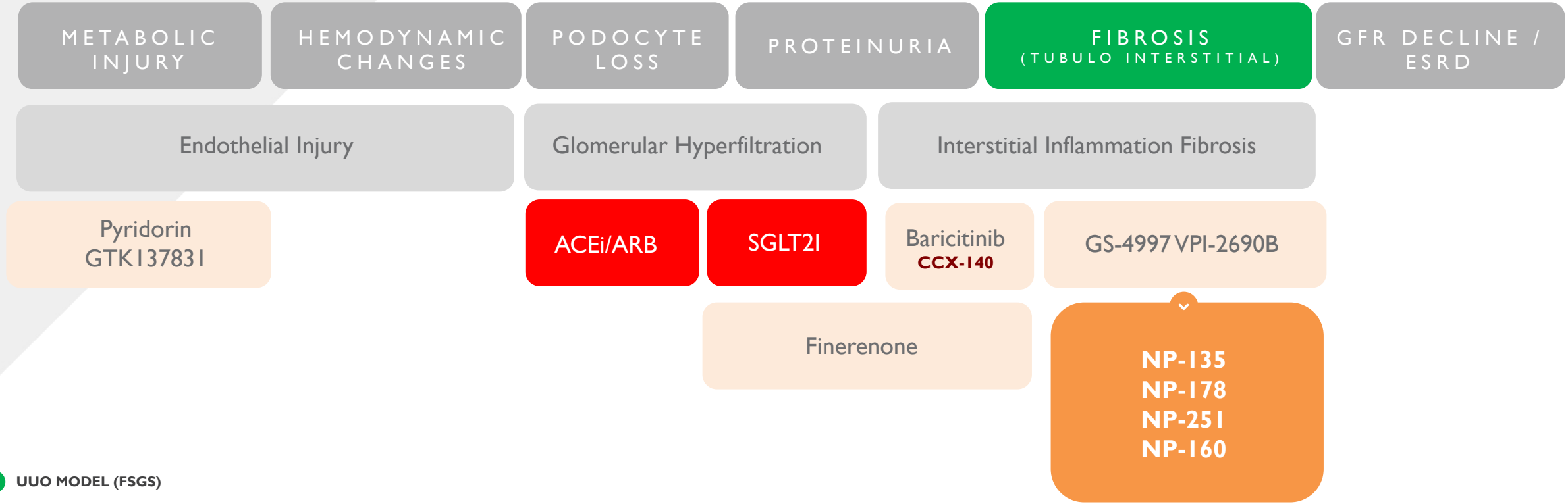


ALGERNON PHARMACEUTICALS

CLINICAL PROGRAMS – OVERVIEW

CKD – PRODUCT POSITION

DISEASE & TREATMENT PROGRESSION



Semin Nephrol. (2016) 36: 436–447

CLINICAL PROGRAM

CKD TRIAL AND COMPARABLES

NP-135

Phase II Design Summary – Low Cost Trial to Provide Proof of Concept Data for Partnering

- 60 patients
- 16 weeks
- 1:1 Placebo to active
- Primary Endpoint: GFR
- Secondary Endpoint: albuminuria
- Country: Australia or Ukraine
- Cost: CDN$1.2M

Intend to file for Orphan drug status in FSGS for NP-135

- Phase III <120 patients
- Estimated $2B market

Validated Therapeutic Arena

KYOWA KIRIN Reata $272M (Asia only) Post-Phase II
VIFOR PHARMA CARA Therapeutics $540M Post-Phase II
CHEMOCENTRYX >$200M USD market cap Post-Phase II (CCX-140)

CLINICAL PROGRAMS – OVERVIEW

NASH

COMPETITIVE ADVANTAGE

- **Clinical:** Potential first-in-class oral small molecule therapies
- **Market:** Favorable product positioning in competitive market: there are few anti-fibrotic focused products in development

US$21.4B
GLOBAL MARKET By 2025

STATUS

- **2 Candidates:**
  1 active candidate (NP-135),
  1 future candidate (NP-160)
- **Safety:** No serious adverse events
- **Efficacy:** Compounds are metabolically neutral, but anti-fibrotic

PRE-CLINICAL PROGRAMS – OVERVIEW

NASH

SMC MOUSE MODEL

- N=8 / arm
- Start treatment weeks 6-9
- Post Bonferroni corrected
- Once a day (QID) treatment
- Clinically relevant doses
- Very highly reproducible model

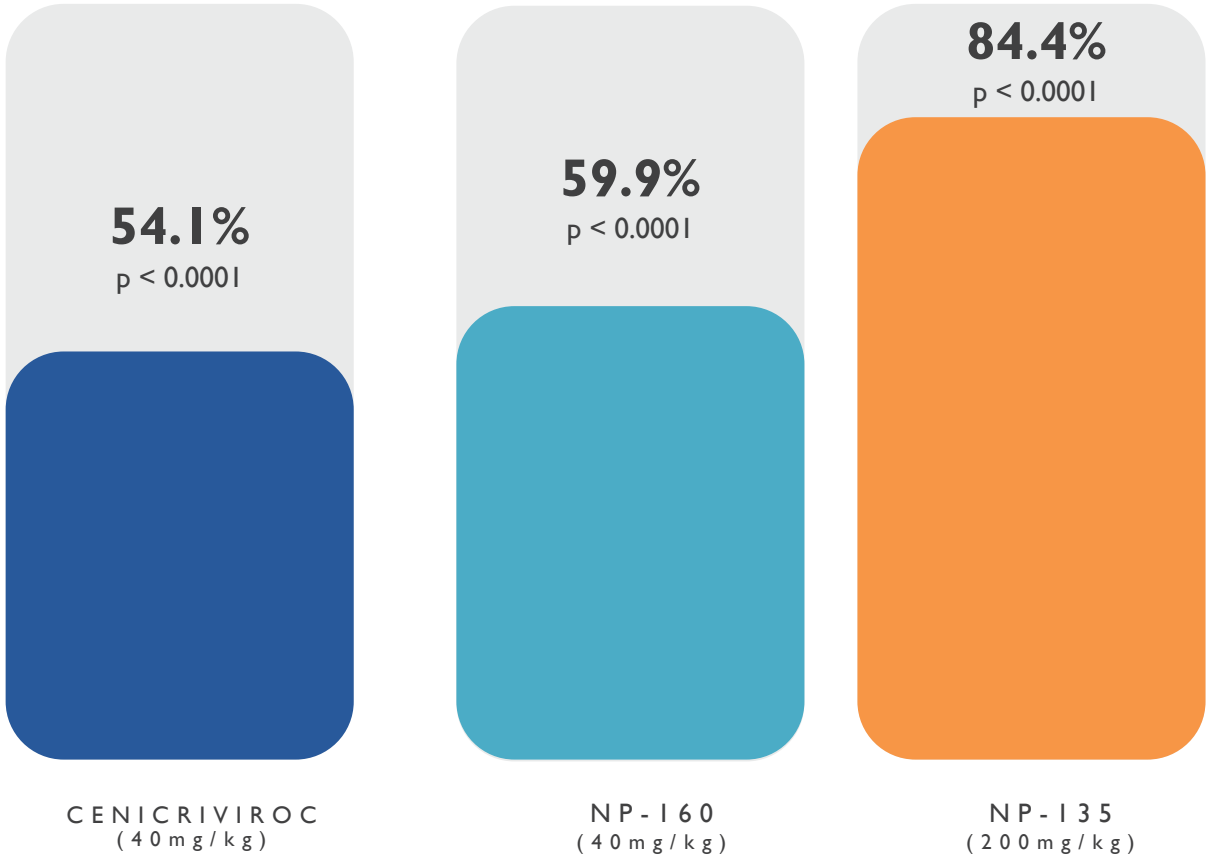
REDUCTION IN NAS SCORES:

CVC	**1.5 (p<0.01)**
NP-135	**1.1 (p = ns)**
NP-160	**1.25 (p<0.05)**

No effect of compounds on metabolic markers :

Glucose
Lipids
Cholesterol

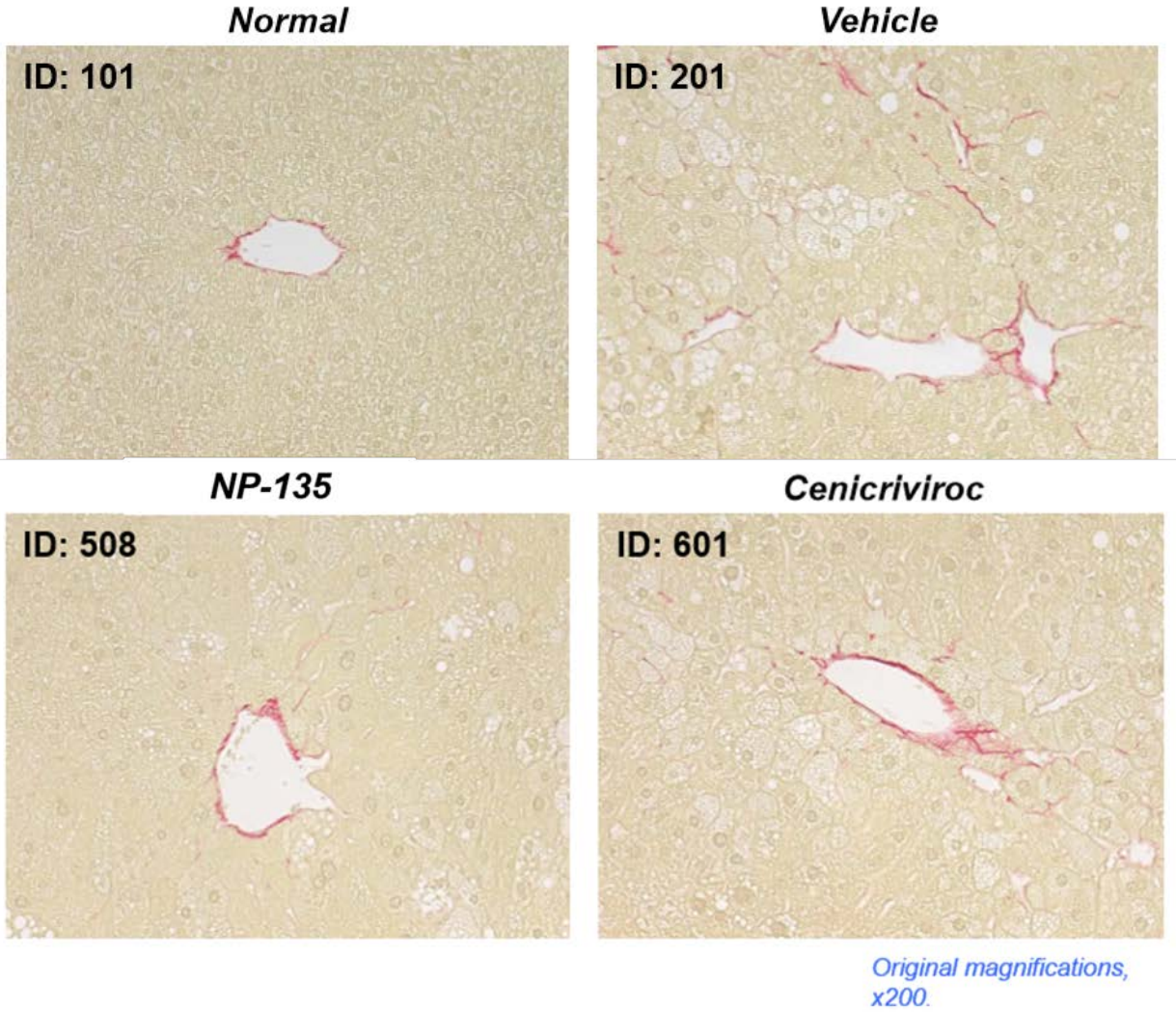
FIBROSIS REDUCTION (SIRIUS RED)



ALGERNON PHARMACEUTICALS

NASH – FIBROSIS HISTOLOGY (SIRIUS RED)

Both NP-135 and CVC were also anti-fibrotic in the CKD UUO model

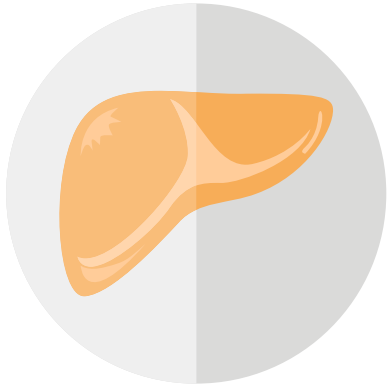


NASH – PRODUCT POSITION

HEALTHY LIVER

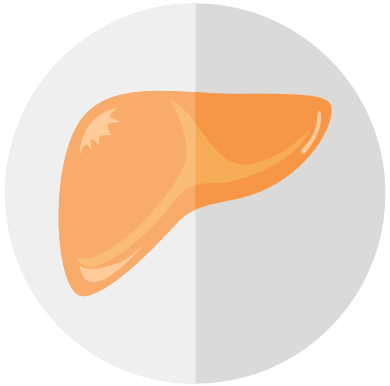
- HbA1c < 6.4%
- Pre-diabetes
- TE < 7 kPa
- CAP > 250 db/m
- Rx = lifestyle Δ

FATTY LIVER



- 6.5% < HbA1c < 9%
- Controlled T2D
- 7 < TE < 9.9 kPa
- CAP > 250 db/m
- Rx = Metabolic

LIVER FIBROSIS



- HbA1c > 9%
- Uncontrolled T2D
- 10 < TE < 14.9 kPa
- CAP > 250 db/m
- Rx = Anti-fibrotic
- **NP-135, NP-160**

CIRRHOSIS

- T2D Complications
- CKD, CAD
- TE > 15 kPa
- HCC screening
- Rx = Combination Therapy
- **NP-135, NP-160**

CLINICAL PROGRAM

NASH TRIAL AND COMPARABLES

NP-135

Phase II Design Summary – Low Cost Trial to Provide Proof of Concept Data for Partnering

- 50 patients
- 6 months of treatment
- 1:1 Placebo to Active
- Primary Endpoint: Enhanced Liver Fibrosis (ELF) Panel
- Secondary Endpoint: Fibroscan for fibrosis and steatosis, proC3
- Country: Australia (difficult), NZ, HK or Ukraine
- Cost ~ CDN$1.5M (includes cGMP synthesis)

Validated Therapeutic Arena

ALLERGAN		
Tobira $1.7B Post-Phase II		
NOVARTIS		
Conatus $700M Post-Phase IIa		
GILEAD		
Nimbus $1B In Phase I	Phenex $470M Post Phase I	Yuan$750M Pre-clinical

PRE-CLINICAL PROGRAMS – OVERVIEW

IPF - RESEARCH STAGE

COMPETITIVE ADVANTAGE

- **Clinical:** First-in-class oral small molecule therapies
- **Market:** Orphan with two approved therapies: Ofev (Nintedanib) and Esbriet (Pirfenidone)

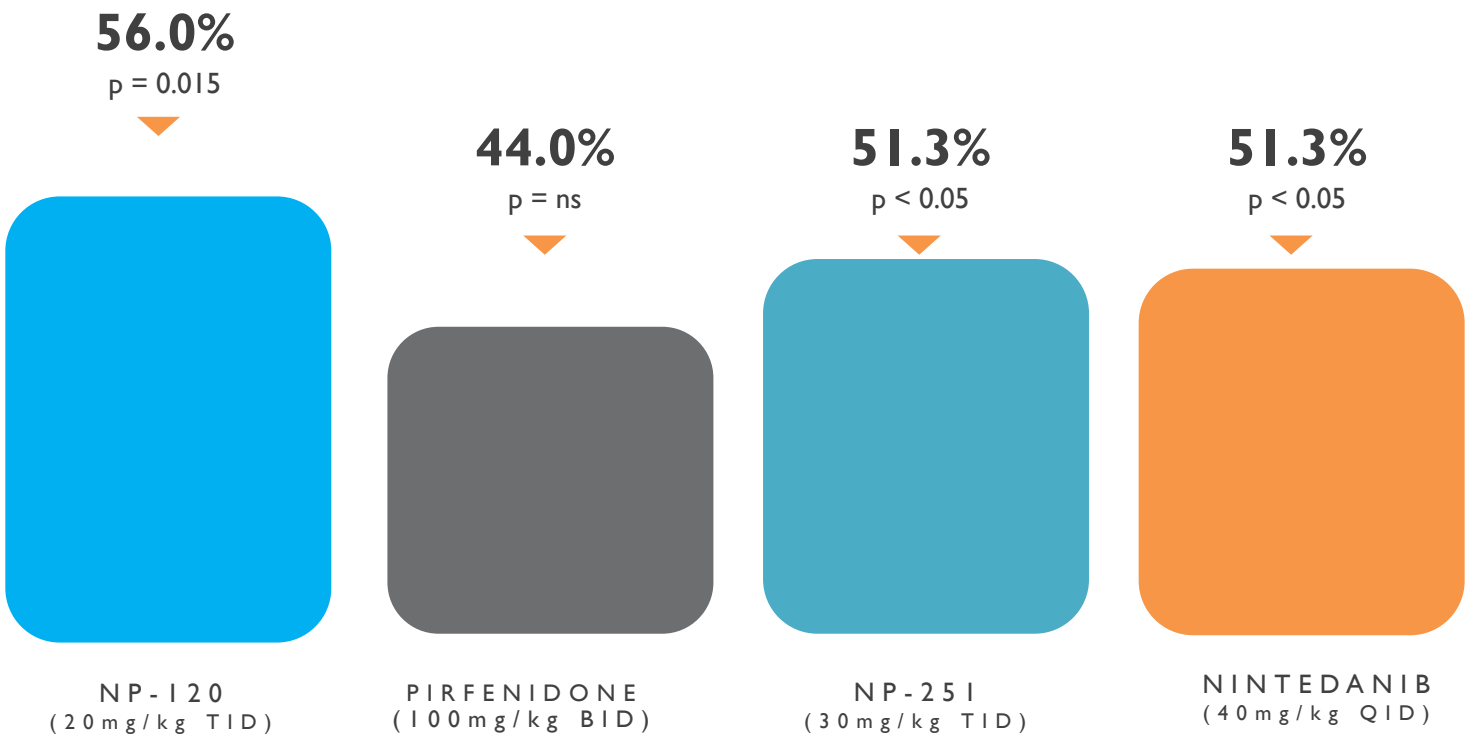
US$3.2B
GLOBAL MARKET By 2025

STATUS

- **2 Candidates in animal testing:**
  NP-120
  NP-251
- **Safety:** No serious adverse events
- **Efficacy:** experiments suggest activity greater than Pirfenidone and Nintedanib

IPF – BLEOMYCIN MODEL STUDY 2

FIRBROSIS REDUCTION



ALGERNON PHARMACEUTICALS™

EXPERIENCED MANAGEMENT TEAM

Christopher J. Moreau

CHIEF EXECUTIVE OFFICER

- President, CEO & director of a TSX:V listed company in the life sciences sector for over nine years
- Experienced with startups, licensing, acquisitions, and integration
- Over 25 years of SNR Management experience in private/publicly traded company environments

Mark Williams PhD MBA

CHIEF SCIENCE OFFICER

- Repositioned 3 drugs from preclinical studies directly to positive Phase II data
- Invented DM199 (recombinant protein) in Phase II trials for Stroke & Kidney Disease
- Secured analyst coverage and KOLS for Diamedica (DMA.V)
- Assisted in raising valuation of DMA.V > $125M on 5 FTE

MEDICAL & SCIENTIFIC ADVISORY

Dr. Arun Sanyal

Dr. Arun Sanyal, MD, is a leading global expert and clinician in the area of chronic liver disease.

Dr. Walter Reinisch

Dr. Walter Reinisch, MD, is a leading global scientific expert and clinician in the area of IBD.

CORPORATE OVERVIEW

FINANCIALS

CAPITAL STRUCTURE

Trading symbols: (CSE: AGN) (CNSX: BTH) (FRANKFURT: AGW) (OTCQB: BTHCF)

Shares O/S: 47.3M
Warrants: 22.1M
Fully Diluted: 69.4M
Recent Share Price: $0.22
90 Day High: $0.33
Market Cap: $10.4M
$1M Cash Feb 28, 2019

Insiders
Kulwant Malhi – **23%**
Management – **12.7%**

CAPITAL REQUIREMENTS

Minimum Raise:	
Working Capital	$ 825,000
NP-178 IBD Trial	$ 1,200,000
Financing Costs	$ 475,000
Total	**$ 2,500,000**
Maximum Raise:	
Working Capital	$ 450,000
NP-178 IBD Trial	$ 1,200,000
NP-135 NASH Trial	$ 1,500,000
NP-135 CKD Trial	$ 1,200,000
Financing Costs	$ 650,000
Total	**$ 5,000,000**

SUMMARY

EXECUTIVE SUMMARY

Algernon Pharmaceuticals is a clinical stage pharmaceutical company focused on the areas of non–alcoholic steatohepatitis (NASH), chronic kidney disease (CKD) and inflammatory bowel disease (IBD).

5 PHASE IIA CANDIDATES

- First-in-class candidates
- Better than current standard of care
- Orphan drug route
- Strong *in vivo* studies
- Oral small molecules with optimal dosing
- Confirming MOA
- Repurposing strategy bypasses safety and manufacturing hurdles

EXPERIENCED TEAM

- Executive team with diverse and deep experience in drug development and financing

INTELLECTUAL PROPERTY

- Provisional Method of Use Patents filed for all lead compounds
- New Class of Compounds Broad NCE Markush Patents
- Composition of Matter Patents on lead compounds have expired.

DEVELOPMENT PLANS

MILESTONES & TIMELINES

(Based on Maximum Raise)

2019

Q3

- Approval for IBD trial in Australia or Ukraine
- Begin cGMP synthesis of NP-135
- Complete IPF research
- Complete pre-clinical studies and publish research papers

2020

Q1

- Complete cGMP synthesis of NP-135
- Submit for ethics in Australia/New Zealand/Ukraine for both the NASH NP-135 study and CKD Study

Q3

- Expect data from IBD study

2021

Q1

- Expect data from NASH study
- Expect data from CKD study