Innovative Peptides

January 2020
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About ImmuPharma

- Listed on UK AIM (LSE:IMM) & Euronext (ALIMM)
- Pipeline of innovative peptides products
- Portfolio from early to late stage
- Discovery labs in France
- Lupuzor - lead product for Lupus commences phase III 2020
- US partner announced Q4 2019 - new "optimised" phase III trial
An innovative peptide portfolio

PHASE III Forigerimod (Lupuzor) a first-in-class autophagy modulator for Lupus

PHASE I Nucant a first-in-class nucleolin antagonist for cancer

PC - “Super-peptide” platform technology
Forgerimod is more than lupus

Autophagy MOA to be explored in other autoimmune diseases
Lupuzor

Our strategy blocks here

Antigen-presenting cell e.g. B cell

Rituximab CD20

Epratuzumab CD22

Belimumab BlyS

Riquent DNA mimics

Kidney Skin
Forigerimod (Lupuzor) A first-in class autophagy modulator

- Different mechanism of action from other autoimmune drugs
- Lysosome targeted therapeutic
- Acts on chaperone mediated autophagy (CMA)
- Down-regulates epitopes for display by class II MHC
- Reduces T-cell signalling and activation, B-cell activation and autoantibodies
- It does not prevent the generation of a protective immune response
- It does not behave as a general immunosuppressant
- Peptide 131-151 of U170k snRNP protein. Phosphorylated at position 140
Systemic Lupus Erythematosus

- Chronic, sometimes fatal autoimmune disease
- Need for safer, more effective treatments
- 1.5m sufferers worldwide
- Belimumab approved 201. First targeted immunotherapeutic
- Orphan populations within lupus disease
- >$1bn global sales potential for new treatments
Phase IIb study of forigerimod (Lupuzor) in lupus

62%  
Responder rate in active group vs 37% in placebo group

25%  
Clinical benefit p<0.025
Phase III study of forigerimod (Lupuzor) in lupus

Overall the study failed to meet primary endpoint due to patient selection.

71%  Responders in active group vs 49% in placebo group

22%  Clinical benefit p<0.022. Data set used were anti-dsDNA positive patients from the larger EU cohort (n=130)
Lupuzor. A very safe profile

Very low dose, once monthly sc injection, minimal volume, based on natural peptide
New optimised phase III

A 52-Week, Randomized, Double-Blind, Parallel-Group, Placebo-Controlled Study to Evaluate the Efficacy and Safety of a 200-mcg Dose of Forigerimod (Lupuzor) Plus Standard of Care in Patients With Systemic Lupus Erythematosus

Major differences ....... screening patients for the presence of anti-dsDNA antibody & patients with more severe lupus
Forigerimod (Lupuzor) positives

- Works in the right patients. Biomarker defined
- Attractive gross margin. Only 2.4mg/patient/year
- Convenient once-monthly dosing
- Belimumab price c.$40k/yr in the US
- Outstanding safety
- Orphan status potential
- Not an immunosuppressant
- Niche market segment treated by specialists
Immupharma partnership deal for US market

- Exclusives rights for US with Avion Pharmaceuticals for Lupuzor
- Phase III funded, milestones & tiered royalties
- International trial provides trial data for ex-US territories
- Finalised end Q4 2019
Avion Pharmaceuticals is a perfect fit

- Headquartered in Alpharetta, Georgia with >200 employees
- Fully integrated in drug development, sales and marketing
- Focus on Rheumatology, Neurology, Endocrine and Women’s Health
- Annual sales >$250m, strong growth
- >100 sales reps with significant specialty experience
- Focus on low competition / high margin branded opportunities
- Sustained pipeline of new opportunities
Nucant a first-in class nucleolin antagonist

- Potential breakthrough cancer drug in Ph I
- Dual MOA - normalises angiogenesis and inhibits proliferation
- Novel target – binds to nucleolin on the surface of cells and inhibits its action.
- Major funding grant received from prestigious French state organisations.
Nucant potential

- Combination therapy to potentiate the action of other classes of anticancer agent
- Anticancer agents need better penetration of tumors for improved effectiveness
- Tumors have abnormal vessels
  - Prevent drugs penetration
  - ‘Abnormal’ tumor vessels promote tumor growth (hypoxia promotes the expression of growth factors!)
Urelix - Foldamer technology

- Proprietary oligoureia “foldamer” technology
- α-helix biomimetics - same shape/structure
- GLP1 peptides with prolonged activity and novel mechanism of action for improved activity (NASH)
- Solubilisation of large peptides i.e. glucagon
- Oral delivery of large peptides
- Patent portfolio covers many peptides/therapy areas
ImmuPharma
Investment Thesis
Thank You

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