CB5138 Analogs:

Novel Antifibrotic Peptides for Idiopathic Pulmonary Fibrosis (IPF) and Other Fibrotic Diseases

Preclinical Update

October 2020

NASDAQ: CWBR

Forward Looking Statements

This presentation contains forward-looking statements which are not historical facts within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are based only on our current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, projections, anticipated events and other future conditions. In some cases you can identify these statements by forward-looking words such as “believe,” “may,” “will,” “estimate,” “continue,” “anticipate,” “intend,” “could,” “should,” “would,” “project,” “plan,” “expect,” “goal,” “seek,” “future,” “likely” or the negative or plural of these words or similar expressions. Examples of such forward-looking statements include but are not limited to statements regarding our cash forecasts; anticipated outcomes of research and clinical trials for our mitochondria based therapeutic (MBT) candidates; expectations regarding the timing and progression of our CB4211 clinical trial, the expected timing of delivery of data, and the anticipated timing and progression of our other programs; expectations regarding the growth of MBTs as a significant future class of drug products; and statements regarding anticipated therapeutic properties and potential of our mitochondrial peptide analogs and MBTs, including but not limited to the treatment of COVID-19 ARDS. You are cautioned that such statements are not guarantees of future performance and that actual results or developments may differ materially from those set forth in these forward-looking statements. Factors that could cause actual results to differ materially from these forward-looking statements include: our ability to successfully advance drug discovery and development programs, including the delay or termination of ongoing clinical trials; our possible inability to mitigate the prevalence and/or persistence of the injection site reactions, receipt of unfavorable feedback from regulators regarding the safety or tolerability of CB4211 or the possibility of other developments affecting the viability of CB4211 as a clinical candidate or its commercial potential; results that are different from earlier data results including less favorable than and that may not support further clinical development; our ability to raise additional capital when necessary to continue our operations; our ability to recruit and retain key management and scientific personnel; risks related to the impact on our business of the COVID-19 pandemic or similar public health crises; and our ability to establish and maintain partnerships with corporate and industry partners. Additional assumptions, risks and uncertainties are described in detail in our registration statements, reports and other filings with the Securities and Exchange Commission and applicable Canadian securities regulators, which are available on our website, and at www.sec.gov or www.sedar.com.

You are cautioned that such statements are not guarantees of future performance and that our actual results may differ materially from those set forth in the forward-looking statements. The forward-looking statements and other information contained in this presentation is made as of the date hereof and CohBar does not undertake any obligation to update publicly or revise any forward-looking statements or information, whether as a result of new information, future events or otherwise, unless so required by applicable securities laws. Nothing herein shall constitute an offer to sell or the solicitation of an offer to buy any securities.

Previous preclinical studies demonstrated antifibrotic efficacy of CB5138 analogs in vitro and in prophylactic and therapeutic mouse models of IPF

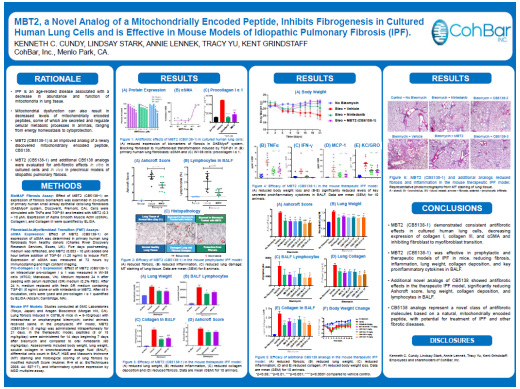
- **Prophylactic IPF results:** CB5138 Analog treatment administered immediately with bleomycin and continued for 21 days protected mouse lung from fibrosis and inflammation.

- **Therapeutic IPF results:** 7 days after bleomycin, CB5138 Analog treatment for 14 days reduced lung fibrosis, inflammation, and collagen levels in lung with effects similar to the approved drug nintedanib

- **Recent ATS presentation:** Efficacy of multiple CB5138 Analogs confirmed in therapeutic IPF model

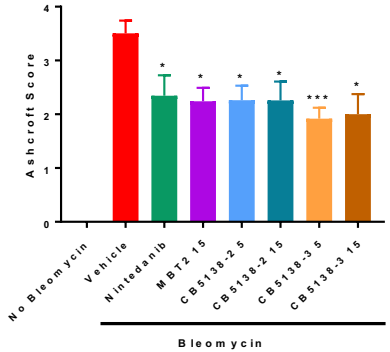
- **Mechanism of Action:** CB5138 Analogs decrease expression of biomarkers of fibrosis and inhibit the process of conversion of healthy lung cells to pathological pro-fibrotic cells in vitro

- **Key Advisor:**: Dr. Toby Maher, Director of Interstitial Lung Disease and Professor of Medicine at the Keck School of Medicine, University of Southern California

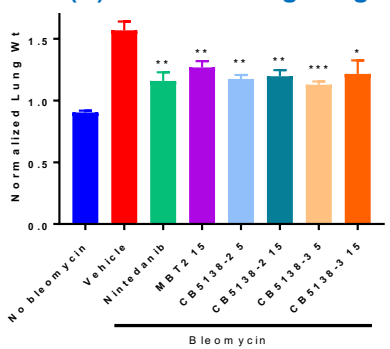


CB5138 Analogs: Data presented at American Thoracic Society Meeting showed additional analogs were effective in mouse therapeutic model of IPF

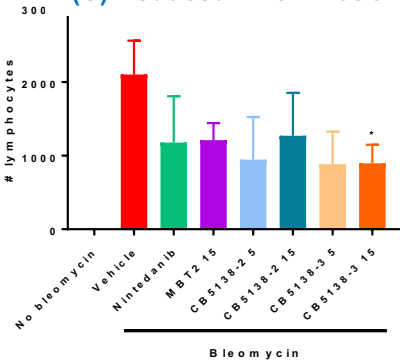
(A) Reduced Fibrosis



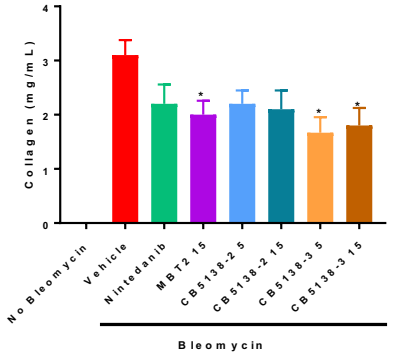
(B) Reduced Lung Weight



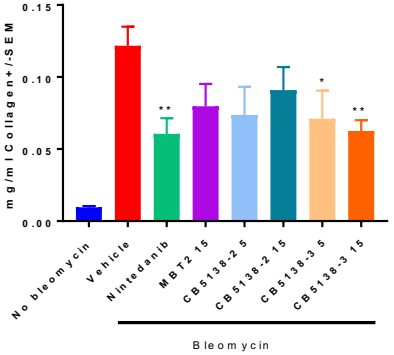
(C) Reduced Inflammation



(D) Reduced Collagen Deposition



(E) Reduced Collagen Secretion



Source: Cundy et al. Poster A2261; American Thoracic Society Meeting, August 5-10, 2020.

New Preclinical Data:

Combination of CB5138 Analog with Nintedanib Standard of Care in Mouse Therapeutic IPF Model

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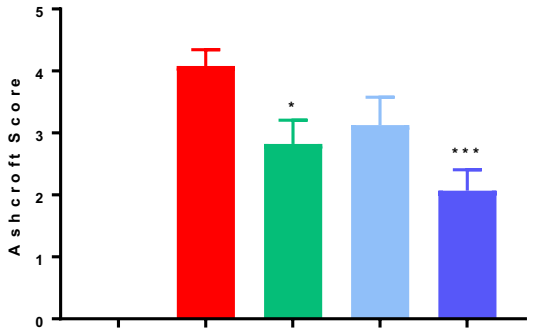
New Data: Combination of CB5138 Analog with standard of care nintedanib in the mouse therapeutic IPF model

Study Design:

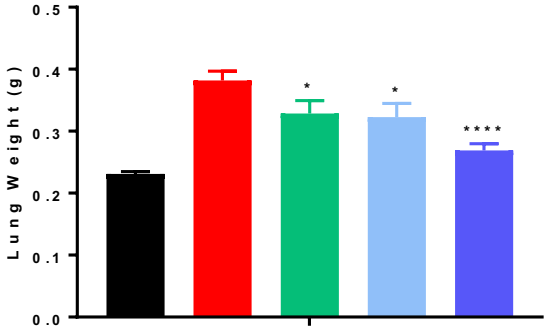
- Fibrosis induced by nasopharyngeal administration of bleomycin.
- Treatment initiated 7 days after bleomycin: vehicle control (placebo), nintedanib (60 mg/kg/day PO), CB5138-2 (5 mg/kg/day IP), or a combination of both nintedanib and CB5138-2.
- Once daily treatment continued for 14 days
- Lungs assessed for fibrosis and collagen deposition by histopathology at Day 21
- Bronchoalveolar lavage fluid (BALF) collected and assessed for collagen secretion, pro-inflammatory cytokine levels, and immune cell infiltration

New Data: Combination of CB5138 Analog with nintedanib was more effective than nintedanib alone in the mouse therapeutic IPF model

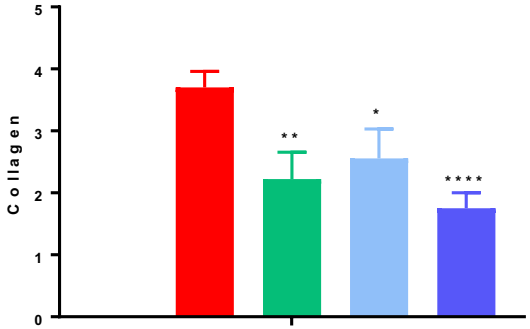
Lung Fibrosis



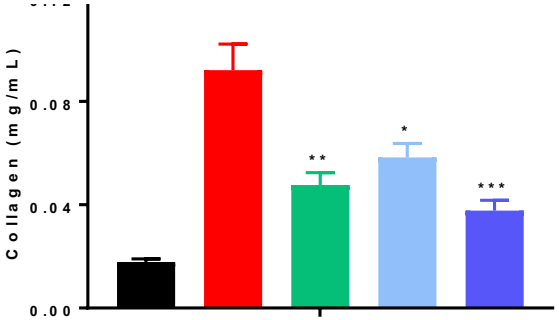
Lung Weight



Collagen Deposition

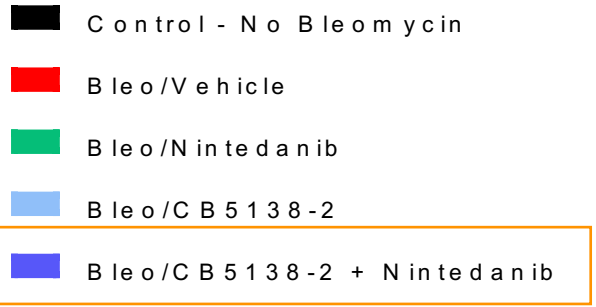


Collagen Secretion



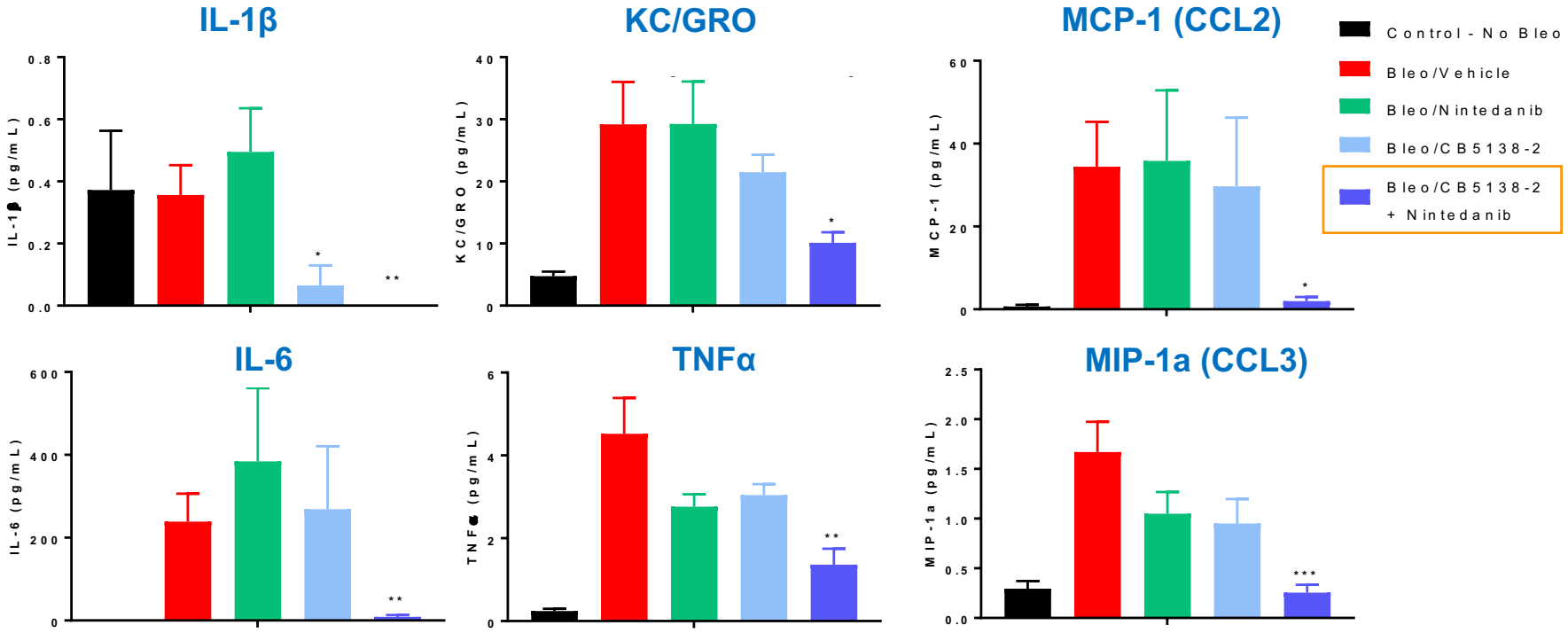
Enhanced Effect of Combination:

- Greater reduction in fibrosis
- Greater reduction in lung weight
- Greater reduction in collagen deposition and secretion



Data are Mean +/- SEM. *P<0.05, **P<0.01, ***P<0.001, ****P<0.0001, vs Bleo/vehicle.

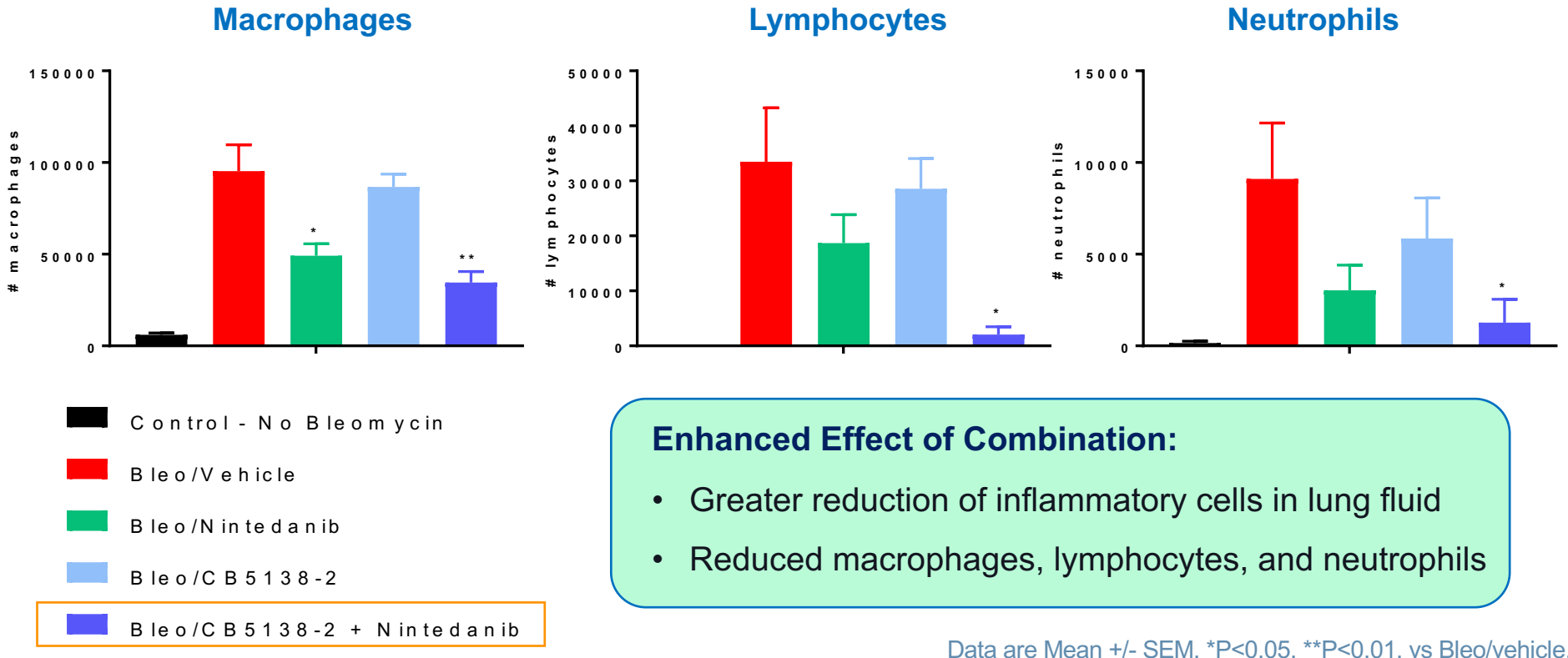
New Data: Combination of CB5138 Analog with nintedanib was more effective in reducing key pro-inflammatory cytokines in lung fluid



Enhanced Effect of Combination: Greater reduction in cytokine secretion

Data are Mean +/- SEM. *P<0.05, **P<0.01, ***P<0.001, vs Bleo/vehicle.

New Data: Combination of CB5138 Analog with nintedanib was more effective in reducing lung inflammation



Enhanced Effect of Combination:

- Greater reduction of inflammatory cells in lung fluid
- Reduced macrophages, lymphocytes, and neutrophils

Data are Mean +/- SEM. *P<0.05, **P<0.01, vs Bleo/vehicle.

CB5138 Analogs for IPF: Summary and Next Steps

Efficacy Confirmed in Mouse Therapeutic IPF Model

✓ Multiple studies have now confirmed efficacy of CB5138 analogs in reducing fibrosis, collagen levels, proinflammatory cytokine secretion, and inflammation

Combination with Nintedanib More Effective than Nintedanib Alone in Mice

✓ Combination of CB5138-2 with nintedanib produced greater effects than nintedanib alone on all study endpoints in the mouse therapeutic IPF model: fibrosis, lung weight, collagen levels, cytokine secretion, and inflammation

Next Steps

- Scale-up and initial safety studies currently ongoing/planned