

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

**FORM 8-K**

**CURRENT REPORT**

**Pursuant to Section 13 or 15(d) of the  
Securities Exchange Act of 1934**

**Date of Report (Date of earliest event reported): November 17, 2009**

**MEDICINOVA, INC.**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction  
of incorporation)

**001-33185**  
(Commission File Number)

**33-0927979**  
(IRS Employer  
Identification No.)

**4350 La Jolla Village Drive, Suite 950  
San Diego, CA 92122**  
(Address of principal executive offices) (Zip Code)

**Registrant's telephone number, including area code: (858) 373-1500**

**Not Applicable**  
(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

**Item 8.01 Other Events.**

Representatives of MediciNova, Inc. (the "Registrant") will be making a corporate presentation at various investor meetings commencing November 17, 2009. A copy of the slide presentation to be used by the Registrant at these meetings is attached hereto as Exhibit 99.1.

The information in this Current Report, including Exhibit 99.1 furnished herewith, is being furnished and shall not be deemed "filed" for any purpose, including for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that Section. The information in this Current Report shall not be deemed incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as shall be expressly set forth by specific reference in such a filing.

**Item 9.01 Financial Statements and Exhibits.**

**(d) Exhibits.**

<u>Exhibit</u>	<u>Description</u>
99.1	Slide presentation of the Registrant

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

MEDICINOVA, INC.

Dated: November 17, 2009

By: \_\_\_\_\_ /s/ SHINTARO ASAKO  
Shintaro Asako  
Vice President and Chief Financial Officer

EXHIBIT INDEX

<u>Exhibit</u>	<u>Description</u>
99.1	Slide presentation of the Registrant



*Accelerating  
the global development  
and commercialization of  
innovative pharmaceuticals*



# Forward-Looking Statements

Statements in this presentation that are not historical in nature constitute forward-looking statements within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements include statements regarding MediciNova's clinical trials supporting safety and efficacy of product candidates and the potential novelty of such product candidates as treatments for disease, plans and objectives for clinical trials and product development, anticipated benefits of the merger with Avigen, Inc., value and benefits to stockholders from such transaction, strategies, future performance, financial condition, liquidity and capital resources. These forward-looking statements may be preceded by, followed by or otherwise include the words "believes," "expects," "anticipates," "intends," "estimates," "projects," "can," "could," "may," "would," or similar expressions. Actual results or events may differ materially from those expressed or implied in any forward-looking statements due to various factors, including the risks and uncertainties inherent in clinical trials and product development and commercialization, such as the uncertainty in results of clinical trials for product candidates, the uncertainty of whether the results of clinical trials will be predictive of results in later stages of product development, the risk of delays or failure to obtain or maintain regulatory approval, the risk of failure of the third parties upon whom MediciNova relies to conduct its clinical trials and manufacture its product candidates to perform as expected, the risk of increased cost and delays due to delays in the commencement, enrollment, completion or analysis of clinical trials or significant issues regarding the adequacy of clinical trial designs or the execution of clinical trials and the timing, cost and design of future clinical trials and research activities; the timing of expected filings with the FDA; MediciNova's failure to execute strategic plans or strategies successfully; MediciNova's collaborations with third parties; failure to complete the merger with Avigen, Inc. on a timely basis or at all; the availability of funds to complete product development plans and MediciNova's ability to raise sufficient capital when needed; intellectual property or contract rights; and the other risks and uncertainties described in MediciNova's filings with the Securities and Exchange Commission, including MediciNova's annual report on Form 10-K for the year ended December 31, 2008 and its subsequent periodic reports on Forms 10-Q and 8-K. Undue reliance should not be placed on these forward-looking statements, which speak only as of the date hereof. MediciNova disclaims any intent or obligation to revise or update these forward-looking statements. This communication does not constitute an offer to sell or the solicitation of an offer to buy any securities or a solicitation of any vote or approval. This material is not a substitute for the registration statement/prospectus/proxy statement MediciNova, Inc. and Avigen, Inc. will file with the SEC or any other documents that the parties may file with the SEC and send to their respective shareholders in connection with the transaction. INVESTORS AND SECURITY HOLDERS OF AVIGEN, INC. ARE URGED TO READ ANY SUCH DOCUMENTS FILED WITH THE SEC CAREFULLY IN THEIR ENTIRETY WHEN THEY BECOME AVAILABLE BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT THE TRANSACTION. Investors and security holders will be able to obtain free copies of any documents filed with the SEC by MediciNova, Inc. and Avigen, Inc. through the website maintained by the SEC at <http://www.sec.gov>.



# Corporate Overview: MediciNova, Inc.

## Development Company Focused on Differentiated Product Candidates

- Unique access to differentiated, potentially high-value assets primarily from Japanese alliances (Kyorin, Kissei, Mitsubishi Tanabe Pharma, Meiji)

## New Approaches to Treat Serious Medical Conditions:

- MN-221: Intravenous (IV) acute asthma and COPD candidate
  - Potential \$1 Billion+ combined market opportunity worldwide
- MN-166: oral multiple sclerosis candidate
  - In 2008, over \$8B in worldwide MS therapeutic sales\*



**MNOV Headquarters:  
San Diego, CA**

## Key Financials:

- Dual listed company on NasdaqGM and Osaka Securities Exchange Hercules
- ~\$37.2 million net Cash, Cash Equivalents and Marketable Securities as of 9/30/2009
- ~\$75.2 million Market Cap (NasdaqGM) as of 11/09/2009
- ~12 million shares outstanding

\*Source: Individual annual reports of leading MS companies, 2008



# Avigen Transaction Overview

---

## Merger Consideration

- Each Avigen stockholder will have the option of receiving their pro rata allocation of cash or convertible notes aggregating approximately \$37.0 million (**~\$1.24/share**), subject to potential upward and downward adjustments as set forth in the merger agreement:
  - First payment consideration of approximately \$35.5 million (**~\$1.19/share**); and
  - Second payment consideration of approximately \$1.5 million (**~\$0.05/share**), payable on June 30, 2010.
    - This holdback amount is being held for any adjustments to certain Avigen defined expenses, marketable security risk, sub-tenant risk, and other liabilities in excess of amounts agreed by the parties.

## Convertible Notes Consideration

- 18-month maturity from the date of closing of merge (no early cash redemption).
- Principal from the notes will be held in a trust account with principal invested in certain approved investment options.
- The notes can be converted on a monthly basis into common shares of MediciNova at an initial conversion price equal to \$6.80.





# Pro Forma Stockholder Review

This pro forma ownership review is presented for illustrative purposes only and does not indicate actual ownership of MediciNova shares at any past, present, or future date. Actual ownership of MediciNova shares will depend on a variety of factors, including the actual amounts of the First Payment Consideration and Second Payment Consideration and the rounding of fractional shares set forth in the indenture governing the convertible notes.

## Summary Securities Ownership Review (Fully Diluted Basis)

	Pre -Transaction Shares	Pro Forma Shares Outstanding Post-Transaction <sup>(1)</sup> Consideration		
		All Cash	50% Cash 50% Conv. Notes <sup>(3)</sup>	100% Conv. Notes <sup>(3)</sup>
Common Stock Equivalents				
MediciNova Stockholders	12,048,003	12,048,003	12,048,003	12,048,003
Avigen Stockholders	-	-	2,717,712	5,435,424
MediciNova Exercisable Options	1,711,350	1,711,350	1,711,350	1,711,350
	<u>13,759,353</u>	<u>13,759,353</u>	<u>16,477,065</u>	<u>19,194,777</u>
Ownership %				
MediciNova Stockholders	87.6%	87.6%	73.1%	62.8%
Avigen Stockholders	0.0%	0.0%	16.5%	28.3%
MediciNova Exercisable Options	12.4%	12.4%	10.4%	8.9%
	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>

(1) Assumes first payment consideration and second payment consideration aggregate \$37.0 million and are both paid at closing and that MediciNova issues no shares or options from August 20, 2009 through the first conversion date of the convertible notes.

(2) Assumes the convertible notes convert to MediciNova shares at \$6.80.

(3) Assumes all convertible notes are converted into MediciNova shares on the first monthly conversion date.

Sources of information: SEC Edgar Filings



# MN-166 for the Treatment of Multiple Sclerosis

## MN-166 for Multiple Sclerosis (MS):

- Oral administration
- Multiple mechanisms of action, both neuroprotective and anti-inflammatory
- MN-166 targets primarily chronic aspects of MS
- Benign safety profile

## Mechanisms of Action:

### Potentially Neuroprotective

- Inhibits Nitric Oxide and reactive oxygen species production
- Stimulates release of neuronal growth factors

### Anti-inflammatory

- Inhibits PDE4, Leukotriene, and Th1 cytokine production (TNF-alpha, IL-1beta, IL-6)
- Stimulates Th2 cytokine production (IL-4, IL-10)

## Current Standard of Care:

- Beta interferon (Rebif®, Avone®, Betaseron/Betaferon®, Copaxone®, Tysabri®)
- Primary focus is on acute treatment of MS symptoms (i.e. relapse rate)



# Completed Clinical Study: MN-166-CL-001

## Placebo-controlled, randomized, double-blind Phase II study:

- Year 1 Placebo, 30 mg/day, 60mg/day
- Year 2 30 mg/day, 60mg/day
- 297 patients (~100 patients/group) @ 25 sites in Serbia, Ukraine, Belarus, Bulgaria and Romania

## Key inclusion criteria:

- Males or females aged 18 to 55 years, with relapsing remitting (RR) and/or secondary progressive (SP) Multiple Sclerosis with continued relapses;
- One MRI scan taken two weeks prior to treatment start using a standardized MRI protocol with at least one Gd-enhancing lesion;
- An Expanded Disability Status Scale (EDSS) score of 5.5 or less at the screening and baseline visits.

## Safety Profile:

- 89% (264 of 297) of subjects completed the first 12 months of the study
- 82.5% (245 of 297) of subjects completed the full 24 months of the study
- Adverse effects reported more frequently in MN-166-treated than placebo-treated subjects: GI effects & depression



# MN-166 Targets Primarily Chronic Aspects of MS

## Indicative of Potential Neuroprotection

- Reduced brain volume loss *P-Value: 0.035*
- Reduced conversion of acute lesions to persistent black holes *P-Value: 0.004*
- Sustained disability progression was significantly less likely *50% reduction*

## Acute Clinical Benefit:

- Prolong time to relapse (by 127 days.) *P-Value: 0.04*
- Annualized relapse rate *P-Value: 0.08*

## Protocol-Defined Primary Endpoint:

- No significant reduction in the cumulative number of active (gadolinium-enhancing (T1) and non-enhancing new/enlarging (T2)) lesions on cranial MRI scans over 12 months of treatment was observed
- Positive trends were observed in volume of gadolinium-enhancing (T1) lesions *P-Value: 0.09*

Note: In general, P-Values listed on this slide compare Placebo group to 60mg/day group of MN-166

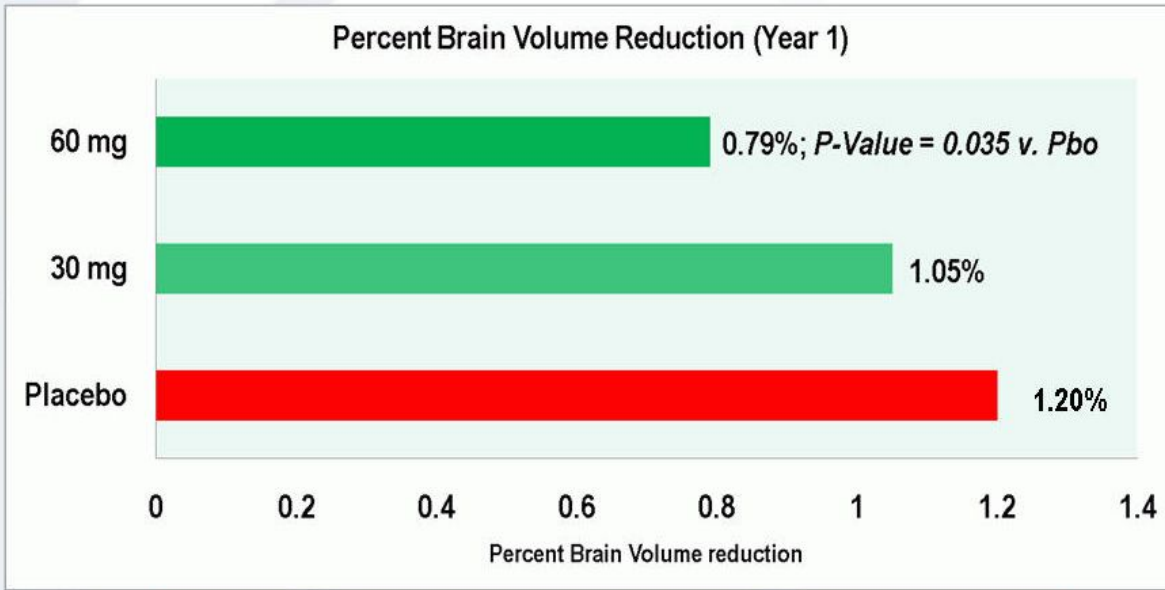
© MedicNova, Inc. 2009

8





# MN-166 - Chronic Efficacy Demonstrated: Effects on Brain Volume



**Brain volume changes are linked to axonal l**



MEDICINOVA



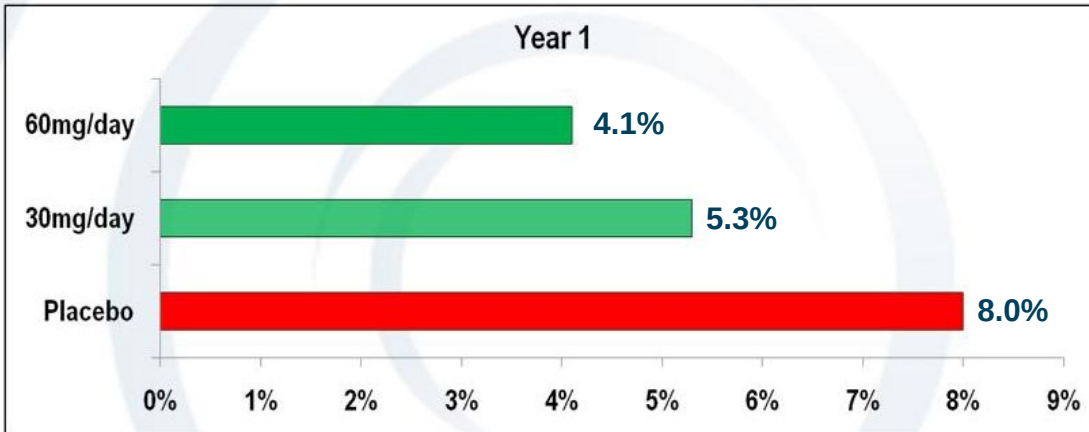
# Reduction of Persistent Black Hole (PBH) Formation

Parameter	Treatment Groups		
	Placebo	30 mg/day	60 mg/day
Number Patients w. New Lesions at Month 2	72	64	56
Total Number New Lesions in all Patients at Month 2	426	338	315
Total Number of Persistent Black Holes at Month 10	98	58	47
Percentage of Lesions Evolving to PBH at Month 10	23%	17%	14%
P-Value	-	<b>0.036</b>	<b>0.004</b>

- New T1 gadolinium-enhancing or new T2 lesions were defined as new lesion in the first on-study MRI at month 2
- Lesions that were hypointense and inactive at month 10 were PBH
- Relative Risk (RR) of new lesion evolution to PBH was analyzed using a general linear model with the error term from the Poisson distribution



# Sustained Disability Progression

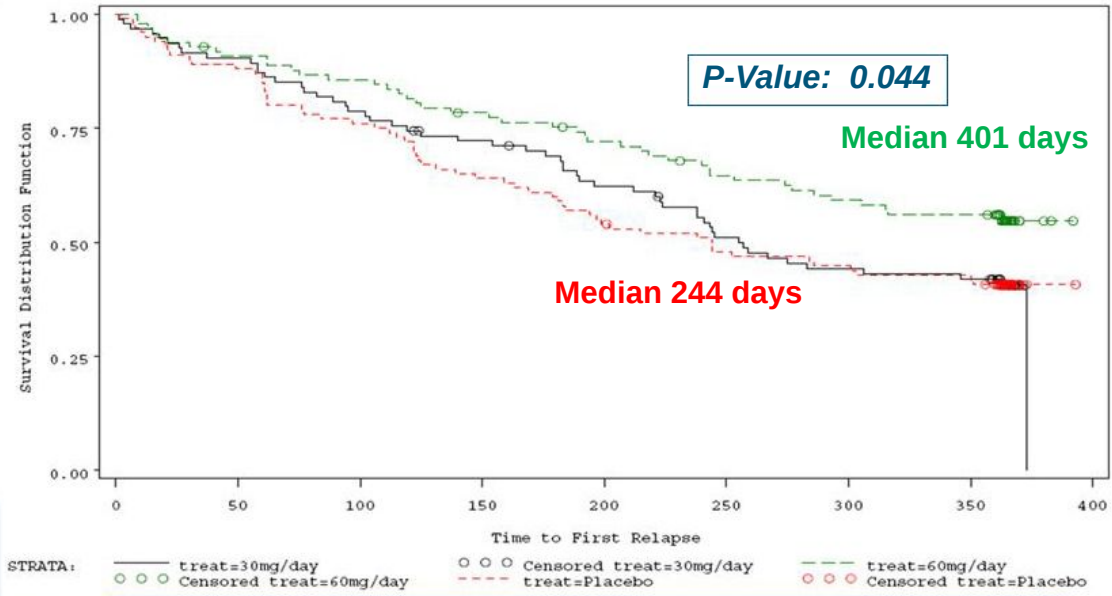


Disability Progression is defined as a sustained increase in EDSS (increase in EDSS maintained for four consecutive months)



# Acute Efficacy Demonstrated: Time to First Relapse

Plot of Time to First Relapse by Treatment (ITT) Core (Year 1)







# Additional Value from Avigen Deal

---

## AV-411 Package: Value to Potential MN-166 Partnership

- Both AV-411 and MN-166 are ibudilast
- AV-411 preclinical data expected to support clinical package for MN-166.
- Open IND for ibudilast
- AV-411 trial supports MN-166 dosing up to 100 milligrams (mg) versus the maximum dosing of 60 mg in the Phase 2 trial for MN-166
- Expected time savings of six to twelve months.
- Analog compounds behind ibudilast
  - First-generation development candidate: AV1013
  - Second-generation dual target leads

## AV-411 Package: New Indication

- AV-411 is currently being studied for ~~opioid~~ withdrawal
- Ongoing clinical study run jointly by the New York State Psychiatric Institute and Columbia University in NYC



# MN-221 for Exacerbations of Acute Asthma and COPD

## Definition:

- **Asthma Exacerbations** are long-lasting and severe asthma episode that is not responsive to initial bronchodilator or corticosteroid therapy
- **COPD Exacerbations** are sustained worsening of the patient's condition, from the stable state and beyond normal day-to-day variations, that is acute in onset

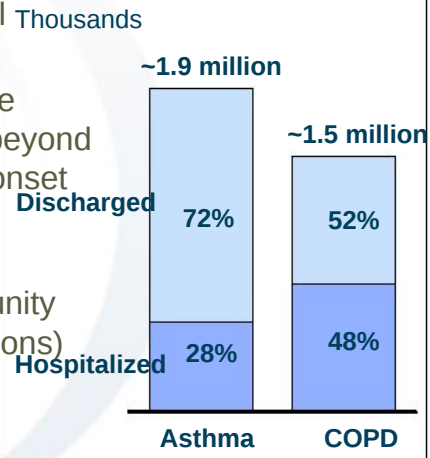
## Market Opportunity\*:

- Potential \$1 Billion+ combined market opportunity worldwide (Acute Asthma & COPD exacerbations)

## Current Standard of Care (SOC):

- Beta agonists inhaled
- Anticholinergics inhaled
- Corticosteroids IV or oral

## Hospitalization rates amongst Asthma and COPD patients



\*Source: National Center for Health Statistics / CDC, WHO website, "Core Health indicators"  
 © MedicNova, Inc. 2009 14





# MN-221: A New Approach to Treating Exacerbations of Acute Asthma & COPD

**MN-221**: A novel, highly selective  $\beta_2$ -adrenergic receptor agonist

**Three potential advantages over current therapy:**

**1. Improved Efficacy**

- Route of Administration (IV v. Inhalation)

**2. Improved Safety**

- Higher selectivity for  $\beta_2$  receptor than  $\beta_1$
- Partial agonist for  $\beta_1$  receptor

**3. Reduced Health Care Expenses**

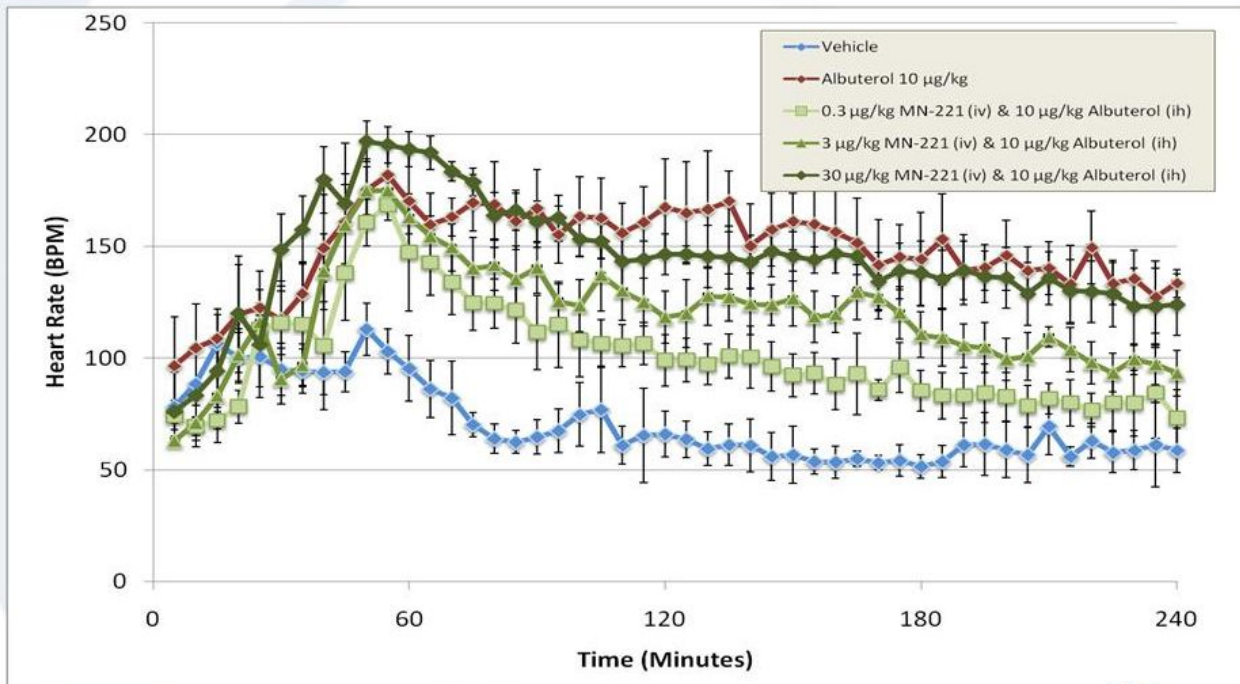


# Human $\beta$ -Adrenergic Receptor Selectivity

Test Drug	$\beta_1$ IC <sub>50</sub> (M)	$\beta_2$ IC <sub>50</sub> (M)	$\beta_2$ -Adrenoceptor Selectivity (IC <sub>50</sub> for $\beta_1$ / IC <sub>50</sub> for $\beta_2$ )
Levalbuterol	7.40E-06	1.40E-06	5.3
Albuterol	9.40E-06	1.60E-06	5.9
Terbutaline	6.00E-05	6.50E-06	9.2
<b>MN-221</b>	<b>5.90E-06</b>	<b>1.40E-07</b>	<b>42.4</b>



# Effect on Heart rate: Combination of MN-221 & Albuterol in Dogs





# MN-221 Clinical Trials

	Completed Studies			Ongoing Studies	
	CL-004	CL-005	CL-006	CL-007	CL-010
<b>Indication</b>	Mild-to-moderate Asthmatics	Moderate-to-Severe Asthmatics	Acute Exacerbations of Asthma	Acute Exacerbations of Asthma	Moderate-to-Severe COPD patients
<b>FEV<sub>1</sub> (Entry Criteria)</b>	FEV <sub>1</sub> ≥ 60%	75% ≥ FEV <sub>1</sub> ≥ 40%	FEV <sub>1</sub> ≤ 55%	FEV <sub>1</sub> ≤ 50%	80% ≥ FEV <sub>1</sub> ≥ 30%
<b>Number Patients</b>	23	17	29	200	48
<b>Number Sites</b>	4	4	8	~45	6
<b>Doses Tested, compared to Placebo</b>	5.25, 15, 52.5, 1080 µg over 15 min; 150, 240, 450, 900 µg over 15 min	1080 µg over 2-hr; 1,125 µg over 1-hr	240, 450 µg over 15 min; 1080 µg over 2-hr	1200 µg over 1-hr	300, 600, 1200 µg over 1-hr

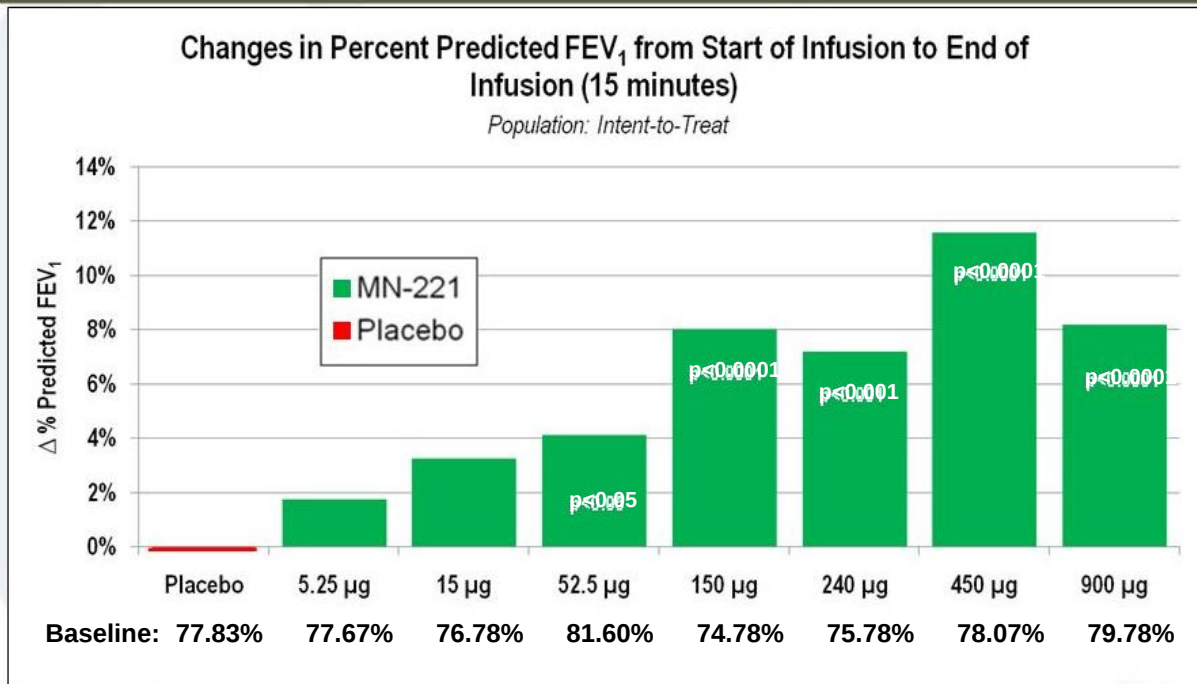
Note: CL-004, CL-005, CL-010 located in the clinic. CL-006, CL-007 located in the Emergency Department



MEDICINOVA



# MN-221-CL-004: Mean Change in FEV<sub>1</sub>

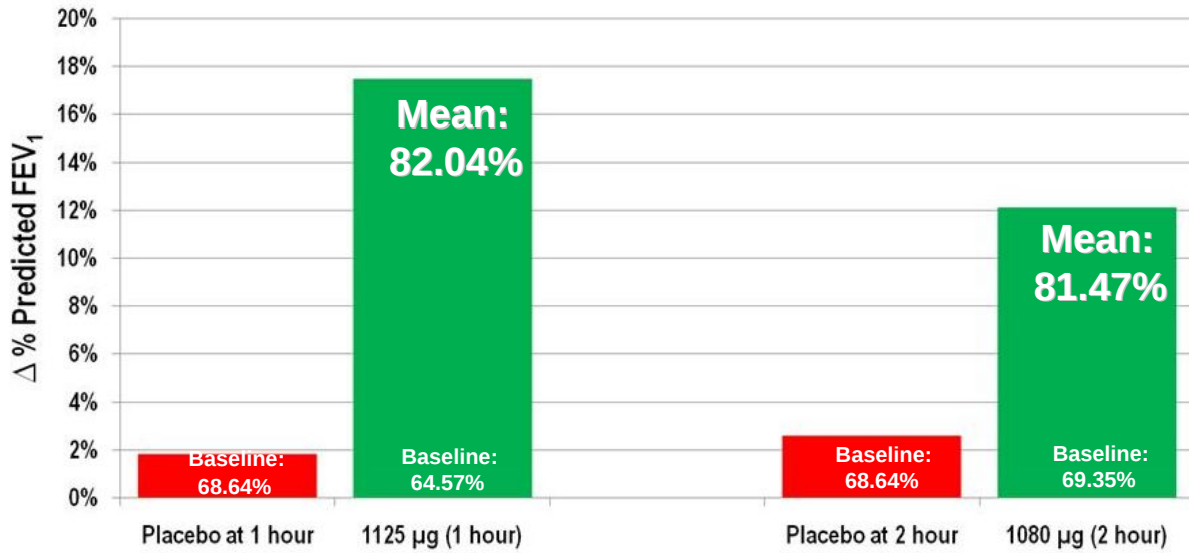




# MN-221-CL-005: Mean Change in FEV<sub>1</sub>

Change in % Predicted FEV<sub>1</sub> from Start of Infusion to End of Infusion

Population: Intent-to-Treat







# MN-221-CL-006: What have we learned?

---

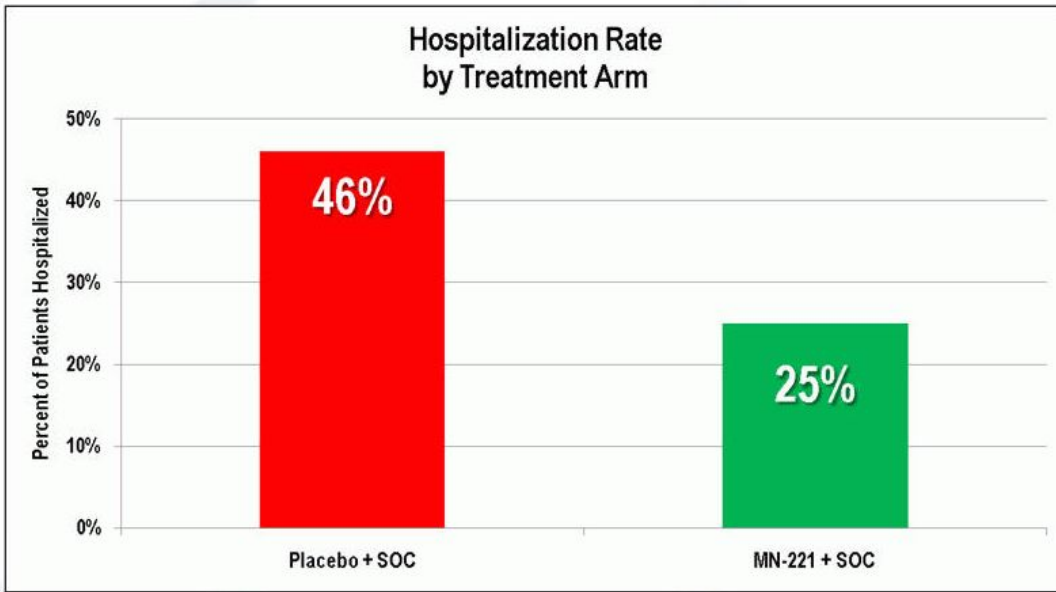
What did we learn from MN-221-CL-006?

- There were no safety concerns with adding MN-221 to the standard of care.
- There was a reduction in the hospitalization rate among patients treated with MN-221.
- Overall, improvement in  $1_{FAS}$  was greater for patients receiving MN-221 than placebo.
- A dose of 1,200  $\mu$ g MN-221 administered over one hour was selected for the MN-221-CL-007 trial.



# MN-221-CL-006

## Hospitalization Rate by Treatment Group



**MN-221 reduced the hospitalization rate by 45%**



## Study Design

- Randomized, placebo-controlled, double-blind, multi-center Phase II clinical trial
- 200 patients with severe acute exacerbations of asthma ( $FEV_1 \leq 50\%$  predicted) at ~45 Emergency Department sites in US, Canada, Australia, and New Zealand
- Dose Groups (~100 patients/group):
  - 600 $\mu$ g in 15 minutes, 600 $\mu$ g for in minutes, 1,200 $\mu$ g MN-221
  - Placebo
- Patients will receive Standard of Care (SOC) treatment in addition to adjunctive treatment with MN-221 or placebo
- Primary efficacy endpoint will be improvement in  $FEV_1$  (% predicted) at 5 hours
  - *The study is designed to have 80% power to detect a treatment difference of 5 percentage points in  $FEV_1$  predicted when comparing MN-221 + SOC to Placebo + SOC at a two sided level of 0.05.*
- Anticipated completion in 2H, 2010\*

\*Anticipated completion dates based on current projections

Note: Development plans / timelines for MN-221 clinical trials are subject to change



# MN-221-CL-010 (COPD)

## Study Design

- Randomized, double-blind, placebo-controlled Phase 1a study
- 48 subjects with stable moderate-to-severe Chronic Obstructive Pulmonary Disease ( $FEV_1 \geq 30\% < 80\%$  and  $FVC$  ratio  $< 0.7$ ) at 6 sites in the US
- Doses:
  - 150  $\mu\text{g}$  in 15 minutes followed by 150  $\mu\text{g}$  in 45 minutes (1-hour infusion with a total dose of 300  $\mu\text{g}$ ) or placebo
  - 300  $\mu\text{g}$  in 15 minutes followed by 300  $\mu\text{g}$  in 45 minutes (1-hour infusion with a total dose of 600  $\mu\text{g}$ ) or placebo
  - 600  $\mu\text{g}$  in 15 minutes followed by 600  $\mu\text{g}/\text{min}$  in 45 minutes (1-hour infusion with a total dose of 1,200  $\mu\text{g}$ ) or placebo
- Outcome measures: descriptive statistics on  $FEV_1$ , PK, safety
- Anticipated completion in 1H, 2010

*\*Anticipated completion dates based on current projections*

*Note: Development plans / timelines for MN-221 clinical trials are subject to change*



# Commercially-Attractive Diversified Portfolio

<u>Core Candidates</u>	Preclinical	Phase I	Phase II	Phase III
MN-166 (Multiple Sclerosis)		<b>Seeking Global Partner</b>		
MN-221 (Exacerbations of Asthma/COPD)		<b>COPD</b>	<b>Asthma</b>	
<u>Non-Core Candidates</u>	Preclinical	Phase I	Phase II	Phase III
MN-001 (Bronchial Asthma)				
MN-305 (Anxiety Disorders)				
MN-001 (Interstitial Cystitis)				
MN-029 (Solid Tumors)				
MN-221 (Preterm Labor)				
MN-246 (Urinary Incontinence)				
MN-447/462 (Thrombosis)				



# Management Team with Global Experience



Leadership	Years Experience	Background
<b>Yuichi Iwaki, MD, PhD</b> CEO & President	33	Professor at USC, formerly Professor at University of Pittsburgh; Advisor to JAFCO, Tanabe
<b>Shintaro Asako, CPA</b> Chief Financial Officer	11	KPMG USA (Audit), Arthur Andersen USA
<b>Masatsuna Okajima, CMA</b> VP, Head of Japanese Office	17	Daiwa Securities SMBC, Sumitomo Capital Securities, Sumitomo Bank
<b>Alan Dunton, MD, PhD</b> Clinical Development Consultant & Board Member	26	CEO of Panacea Metaphore; President of the Janssen Research Foundation, a J&J company





# Investment Highlights

## Near-Term Business Plan:

1. Secure a global partnership for MN-166/AV-411 combined package\*
2. Secure a regional partnership (ex-US/Japan rights) for MN-221

## Clinical Milestones:

1. MN-221-CL-007 Phase II study for Acute Exacerbations of Asthma
  - Anticipated completion 2H, 2010\*\*
2. MN-221-CL-008 Phase II study in Moderate-to-Severe COPD patients
  - Anticipated completion in 1H, 2010\*\*

*\*Assumes completion of acquisition of Avigen*

*\*\*Anticipated completion dates based on current projections*

*Note: Development plans / timelines for MN-221 clinical trials are subject to change*