

# Immunic Therapeutics Developing Selective Oral Therapies in Immunology

NASDAQ: IMUX | April 2025

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This presentation contains "forward-looking statements" that involve substantial risks and uncertainties for purposes of the safe harbor within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These include statements regarding management's intentions, plans, beliefs, expectations or forecasts for the future, and, therefore, you are cautioned not to place undue reliance on them. No forward-looking statement can be guaranteed, and actual results may differ materially from those projected. Immunic undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise, except to the extent required by law. We use words such as "anticipates," "believes," "plans," "expects," "projects," "future," "intends," "may," "will," "should," "could," "estimates," "predicts," "potential," "continue," "guidance," and similar expressions to identify these forward-looking statements that are intended to be covered by the safe-harbor provisions of the Private Securities Litigation Reform Act of 1995.

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Forward-looking statements included in this presentation are based on information available to Immunic as of the date of this presentation. Immunic does not undertake any obligation to update such forward-looking statements except as required by applicable law.



## CLINICAL-STAGE BIOPHARMACEUTICAL COMPANY (NASDAQ: IMUX)

Dedicated to improving the lives of patients with chronic inflammatory and autoimmune diseases



#### Innovative pipeline:

First in class oral drugs with unique modes of actions for multiple sclerosis and gastrointestinal diseases



Experienced leadership team: Successfully developed and commercialized multiple medicines



Near-term catalysts: Series of milestones targeting blockbuster market opportunities

Large commercial opportunity: \$2-6 billion peak sales potential for phase 3 program in multiple sclerosis

Financials: Cash balance of USD 35.7 million as of Dec 31, 2024

#### Leadership Team Company is Led by an Experienced Management Team



Daniel Vitt, PhD Chief Executive Officer



Jason Tardio, MBA President & Chief Operating Officer



Andreas Muehler, MD, MBA Chief Medical Officer



Hella Kohlhof, PhD Chief Scientific Officer



Glenn Whaley, CPA Chief Financial Officer



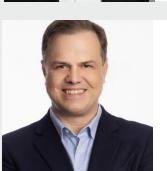
Patrick Walsh Chief Business Officer



Inderpal Singh General Counsel



Werner Gladdines Chief Development Officer



Duane Nash, MD, JD, MBA Executive Chairman



## **Advanced Clinical Pipeline**

#### Well Differentiated Programs in Various Phases of Clinical Development

Program	Preclinical	Phase 1	Phase 2	Phase 3	Key Program Updates	
Vidofludimus Calcium (IMU-838) <sup>*</sup>					✓ Phase 2 EMPhASIS trial in relapsing-remitting MS successfully completed	
	Relapsing Multiple Sclerosis (	RMS) ENSURE 1 and ENS	URE 2 Trials		<ul> <li>Interim analysis of ENSURE program completed, IDMC recommendation to continue trials as planned</li> </ul>	
	Progressive Multiple Sclerosi	s (PMS) CALLIPER Trial			<ul> <li>Interim biomarker readout of CALLIPER trial completed with strong NfL reduction effects</li> <li>Phase 2 CALDOSE-1 trial in UC completed, effective in 50 weeks maintenance phase</li> <li>Top-line data from CALLIPER trial expected in April 2025</li> </ul>	
	Ulcerative Colitis (UC) CAL	OOSE 1 Trial				
					<ul> <li>Completion of first ENSURE trial expected in Q2/2026, second in H2/2026</li> </ul>	
IMU-856					✓ Phase 1/1b trial in healthy volunteers and celiac disease completed, first proof-of-concept in celiac disease	
	Celiac Disease and other Gas	trointestinal Disorders			<ul> <li>Dose-dependent increase of endogenous GLP-1 in po hoc analysis of phase 1b trial in celiac disease</li> </ul>	
					<ul> <li>Further clinical testing in preparation</li> </ul>	
IMU-381						
	Gastrointestinal Diseases					

Ongoing Completed In preparation or planned

\*Additional investigator-sponsored phase 2 RAPID\_REVIVE trial of vidofludimus calcium in post COVID syndrome ongoing, sponsoredby University Hospital Frankfurt



Vidofludimus Calcium in Multiple Sclerosis (MS)

Targeted to Elevate the Standard of Care for the Full Spectrum of Multiple Sclerosis Patients

# Vidofludimus Calcium Has the Potential to Transform the Oral Multiple Sclerosis DMT Market



Designed to Combine the Best of Two Worlds: Neuroprotection and Relapse Prevention

**First-in-class, dual mode of action** approach designed to address the **full spectrum of disease:** 

- Nurr1 activation provides direct neuroprotective effects
- DHODH inhibition is associated with anti-inflammatory effects

Oral DMT category: Achieves **best-in-class benefit / risk profile** by combining **strong efficacy** with **safety**, **tolerability**, and **once-daily** convenience

No first-dose or on-treatment monitoring makes it an easy start or switch to therapy

No anticipated black box warnings or serious infection risk (e.g., PML, malignancies, etc.)

#### If approved, peak sales potential for vidofludimus calcium of \$2-6 billion<sup>[1]</sup>

DMT: disease-modifying therapy; Nurr1: nuclear receptor-related 1; DHODH: dihydroorotate dehydrogenase; PML: progressive multifocal leukoencephalopathy [1] Based on Immunic internal market research



# Multiple Sclerosis is a Lifelong Neurodegenerative Disease

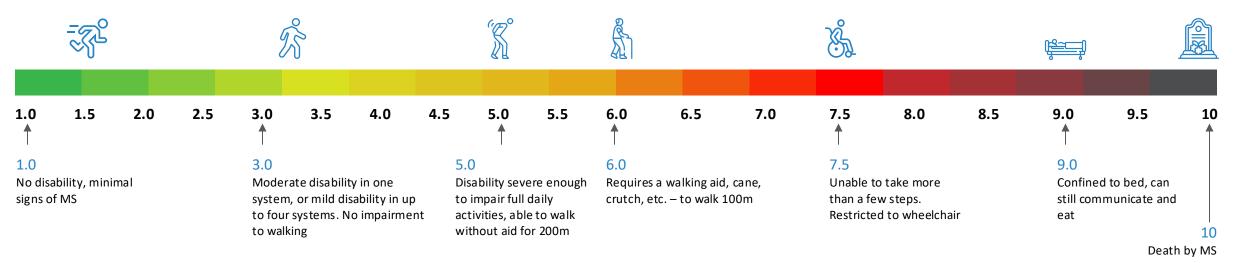


Lifelong Disease Requiring Decades of Therapy

- ~2.9 million people affected worldwide<sup>[1]</sup>
- ~1 million people affected in US<sup>[1]</sup>
- Often diagnosed in younger adults (3:1 women:men)



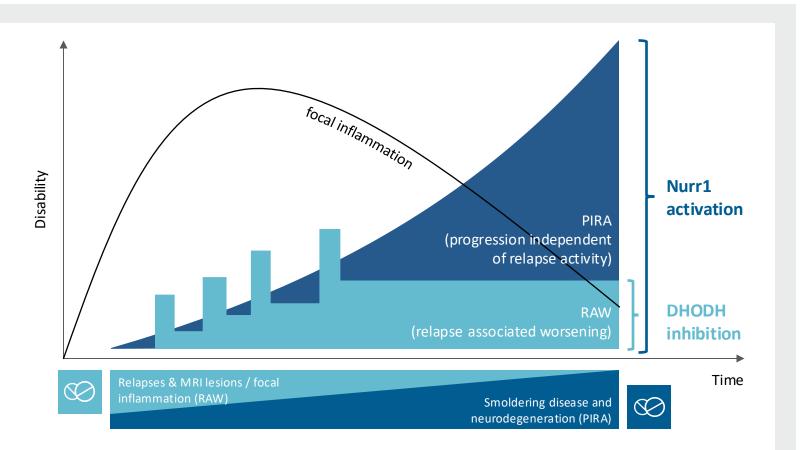
- Key unmet need: prevention or slowing of long-term disability worsening, prolonging time of independence
- Historical focus has been on prevention of relapses via broad immunosuppression



[1] National MS Society (2024): How Many People Live With Multiple Sclerosis? https://www.nationalmssociety.org/understanding-ms/what-is-ms/who-gets-ms/how-many-people#~:text=An%20Overview%20of%20How%20Many,than%20twice%20the%20previous%20estimate Illustration adapted from: VOX, https://futurism.com/reversal-of-multiple-sclerosis-via-risky-stem-cell-treatment-confirmed, and Multiple Sclerosis Trust, https://www.mstrust.org.uk/



### "Invisible" Disability Progression Over Time Requires a Neuroprotective Mode of Action Approach



Graphic adapted from Kretzschmar A., Symposium MSVirtual2020 / 8th Joint ACTRIMS-ECTRIMS Meeting and REVIEW article, Front. Immunol., 29 November 2023, Sec. Multiple Sclerosis and Neuroimmunology, Volume 14 – 2023 [1] Scalfari A. Mult Scler. 2021 Jun; 27(7):1002-1004 / MRI: magnetic resonance imaging; Nurr1: nuclear receptor-related 1; DHODH: dihydroorotate dehydrogenase; MS: multiple sclerosis One stage model of MS<sup>[1]</sup>:

- All patients exhibit progressive components from disease onset
- Can be overlapped by relapsing components in the early phases

To address this, new treatments should:

- Have a significant impact on relapses and focal MRI activity
- Reduce RAW
- Tackle processes responsible for smoldering MS/PIRA



## There Are Three Distinct MS Indications

The Different Indications Have Different Paths and Drivers of the Disability Progression

(~\*)

#### **Relapsing MS**

Relapse

**Disability Worsening** 

- Includes relapsing-remitting MS and active secondary progressive MS
- Relapses and MRI lesions dominate clinical course, disability progression already present
- Current drugs mainly address relapses and relapse-associated disability worsening

#### Non-Active SPMS

 Relapses have stopped, but disability progression continues

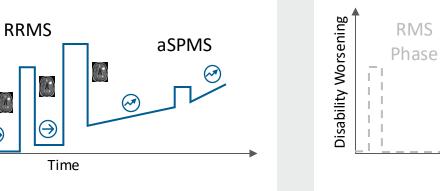
 $(\rightarrow)$ 

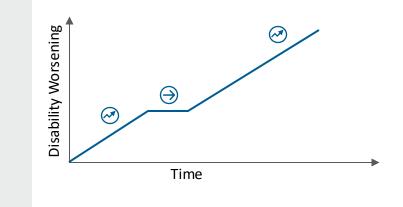
Time

• No therapies approved, to date

#### **Primary Progressive MS**

- Disability worsening without relapses from the start without predominance of relapses
- Only one drug approved, so far





Adapted from Kretzschmar A., MSVirtual2020; \*Lublin FD, et al. Brain. 2022 Sep 14;145(9):3147-3161

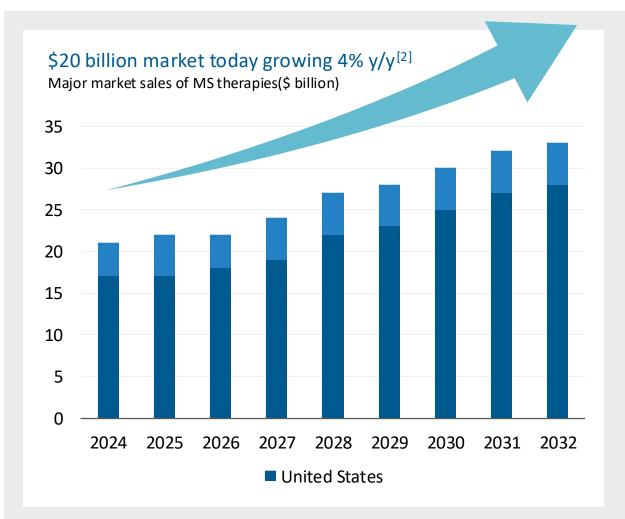
MS: multiple sclerosis; MRI: magnetic resonance imaging; RRMS: relapsing-remitting MS; SPMS: secondary progressive MS; aSPMS: active SPMS



# A Large and Growing Global Market Where Multiple Blockbusters Coexist

Many brands are generating in excess of \$1 billion in global annual sales in 2024<sup>[1]</sup>

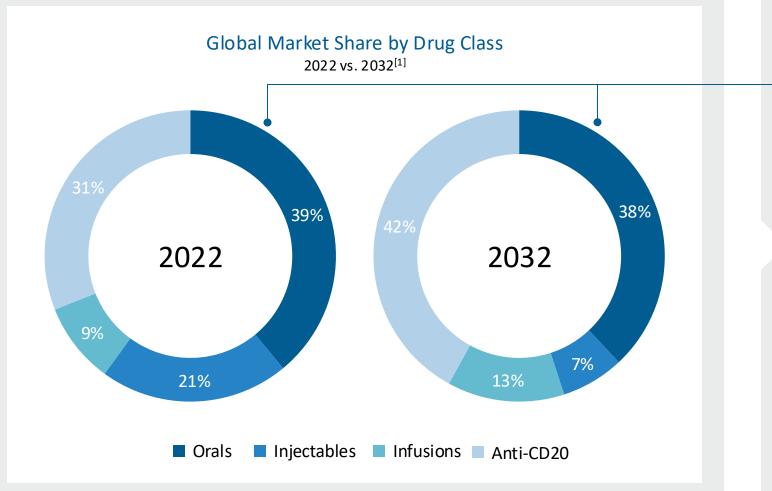
Ocrevus®	\$7.6 billion
Kesimpta®	\$3.2 billion
Tysabri®	\$1.7 billion
Tecfidera <sup>®</sup> & Vumerity <sup>®</sup>	\$1.6 billion
Mavenclad®	\$1.15 billion
Avonex <sup>®</sup> & Plegridy <sup>®</sup>	\$968 million
Rebif®	\$626 million
Gilenya®	\$552 million
Aubagio®	\$379 million
Briumvi®	\$310 million



[1] Company public filings [2] Sales numbers in G7 countries (US, UK, Canada, Japan, Germany, France, Italy) in USD billion; Multiple Sclerosis Landscape and Forecast by Decision Resources Group Part of Clarivate



# Oral DMTs Will Continue to Play a Big Role as Important Treatment Options





While anti-CD20 class of therapies continues to grow, oral class still expected to capture over 1/3 of the global market

- 42% of patients prefer oral medicines<sup>[2]</sup>
- Early-line reliance on injectable therapies will continue to wane as the market shifts to using oral therapies earlier
- 15% of patients with PPMS and 25% of patients with non-active SPMS received oral treatments (off label)<sup>[3]</sup>

[1] Sales numbers in G7 countries (US, UK, Canada, Japan, Germany, France, Italy) in USD billion; 2024 Multiple Sclerosis Landscape and Forecast by Decision Resources Group Part of Clarivate. [2] Jonker MF, et al. Med Decis Making. 2020 Feb;40(2):198-211 [3] Watson C, et al. Neurol Ther. 2023 Dec;12(6):1961-1979 / DMT: disease-modifying therapy; CD20: B lymphocyte cell-surface molecule; SPMS: secondary progressive MS; PPMS: primary progressive MS



# Multiple MS Patient Segments Could Benefit from Vidofludimus Calcium



Newly diagnosed patients

Patients switching therapies due to disability worsening



Patients switching therapies due to tolerability or safety concerns Older patients where immunosuppression is a concern



Untreated patients



Patients with progressive disease (naSPMS & PPMS)





# Vidofludimus Calcium: Derisked Near-Term Opportunity with \$2-6 Billion Peak Potential

Indication	RMS	naSPMS	PPMS
Status	Phase 3	Phase 2	Phase 2
Clinical Evidence	76% reduction in new Gd+ lesions (Phase 2)	20.1% reduction in serum NfL compared to placebo in naSPMS patients (Phase 2)	18.8% reduction in serum NfL compared to placebo in PPMS patients (Phase 2)
CONTRACTOR Eligible Population	~900k	~175k	~120k
Next Milestones	Phase 3 completion 2026	Phase 2 data April 2025	Phase 2 data April 2025
Potential Peak Sales	\$1-2B	\$1-2B	\$1-2B

Patient numbers sourced via internal Immunic analysis and the 2024 Multiple Sclerosis Landscape and Forecast report by Decision Resources Group Part of Clarivate RMS: relapsing MS; naSPMS: non-active secondary progressive MS; PPMS: primary progressive MS; Gd+: gadolinium-enhancing; NfL: neurofilament light chain

Vidofludimus Calcium in Multiple Sclerosis (MS)

First-in-Class, Potent Nurr1 Activator and Selective DHODH Inhibitor

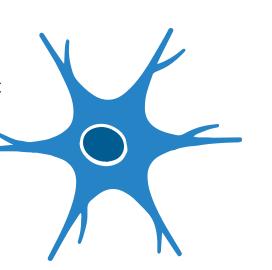
# Vidofludimus Calcium Addresses Smoldering Neurodegeneration



First-in-Class Nurr1 Activator, Targeting Improvement of Physical and Mental Ability of Multiple Sclerosis Patients

#### Nurr1 Activator

- Direct and indirect neuroprotective effects
- Involved in protecting relevant neurons from cell death
- Known effects reducing activation of microglia and astrocytes
- Effect independent from focal inflammation

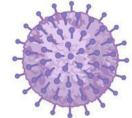


#### **DHODH** Inhibitor

- Selectively targets hyperactive immune cells
- Selective anti-inflammatory effects, reducing focal inflammation, magnetic resonance imaging lesions and relapses
- Broad-spectrum antiviral effects prevent reactivation of EBV and could stop cross reactive immune responses



Blocking of Th17/Th1 cytokines





Nurr1: nuclear receptor-related 1; DHODH: dihydroorotate dehydrogenase; EBV: Epstein-Barr virus

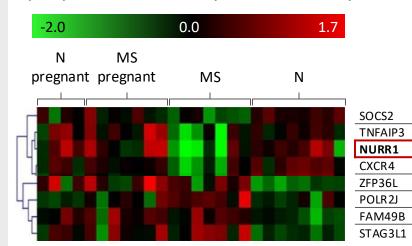
# MS Progression/Activity is Naturally Lowered During Pregnancy Linked to Nurr1 Upregulation



Pregnancy is associated with a substantial reduction in MS disease activity, particularly in the third trimester



Pregnancy is a unique state of immune-modulation in which the maternal immune system transiently tolerates the foreign (paternal) antigens of the fetus 347 transcript differentially expressed in RRMS peripheral blood compared to healthy control





8 genes (e.g., Nurr1) revert to healthy control value during pregnancy



Nurr1 gene expression level negatively correlates with relapse rate and EDSS

Gilli et al., 2010, 2011, Navone et al., 2014, Montarolo et al., 2019 MS: multiple sclerosis; RRMS: relapsing-remitting MS; Nurr1: nuclear receptor-related 1; EDSS: Expanded Disability Status Scale



# Further Role of Nurr1 in MS: Nurr1 is Downregulated in MS Patients

Nurr1 Is a Nuclear Receptor Involved in Neuroprotection





Nurr1 activation delays the onset of the MS and counteracts inflammation in EAE animal models of MS.<sup>[1]</sup>



In untreated patients with relapsing-remitting MS, Nurr1 was significantly downregulated compared to healthy controls.<sup>[2]</sup>



Nurr1 gene expression level negatively correlates with the aggressiveness of the pathology and clinical parameters of MS, e.g., relapse rate and EDSS, in which more aggressive forms of the disease were characterized by lower levels of the Nurr1 transcript.<sup>[3]</sup>



In brain tissue from people with progressive MS, higher levels of Nurr1 are associated with less nerve loss.<sup>[4]</sup>

[1] Montarolo et al., Inflamm. Res. 2015, 64, 841–844 [2] Gilli et al., PLoS ONE 2010, 5, e8692 [3] Gilli et al., Arch. Neurol. 2011, 68, 1–10 [4] Pansieri et al., Brain Commun. 2023 Mar 17;5(2):fcad072 / MS: multiple sclerosis; Nurr1: nuclear receptor-related 1; EAE: experimental autoimmune encephalomyelitis; EDSS: Expanded Disability Status Scale



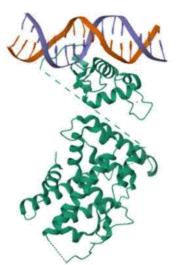
# Vidofludimus Calcium Activates Nurr1, Shown to Increase Neuronal Survival



#### Nurr1 Binding

Nurr1 is a transcription factor binding to DNA<sup>[1]</sup>

Vidofludimus calcium binds to and strongly activates Nurr1 activity with nM values

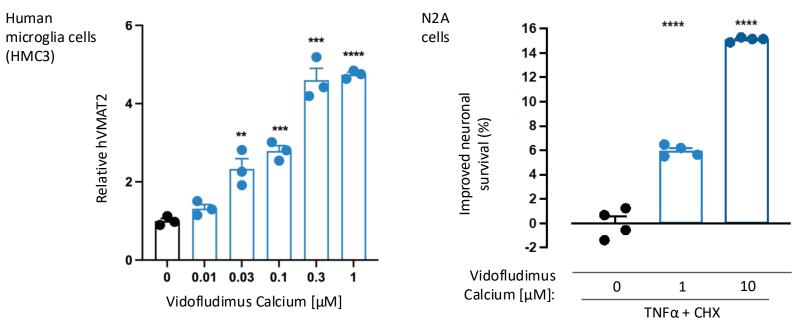




Vidofludimus calcium induces a > 2-fold induction of target gene expression of VMAT2 at 30 nM concentration<sup>[2]</sup>



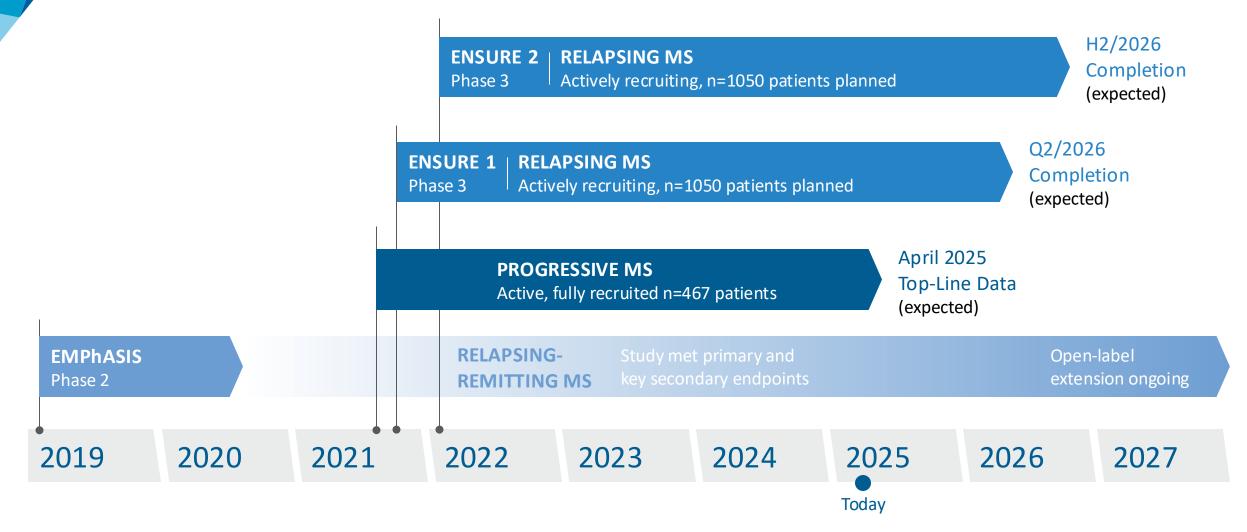
Vidofludimus calcium improves neuronal survival via Nurr1 activation<sup>[3]</sup>



[1] Vietor et al., Journal of Medicinal Chemistry 2023 66 (9), 6391-6402 The related research project was funded by the German Federal Ministry of Education and Research under the grant number 03INT607AA; Structure: Zhao, M. et.al. (2022) Proc Natl Acad Sci USA 119; [2] Sun, Zuoming. City of Hope. 2023, unpublished [3] Unpublished data: Sun lab, City of Hope, Duarte; 2023 / Nurr1: nuclear receptor-related 1; DNA: deoxyribonucleicacid; VMAT2: vesicular monoamine transporter 2; DMSO: dimethyl sulfoxide; TNF: tumor necrosis factor



# Vidofludimus Calcium: Clinical Trials Overview in Multiple Sclerosis (MS)





Vidofludimus Calcium in Multiple Sclerosis (MS)

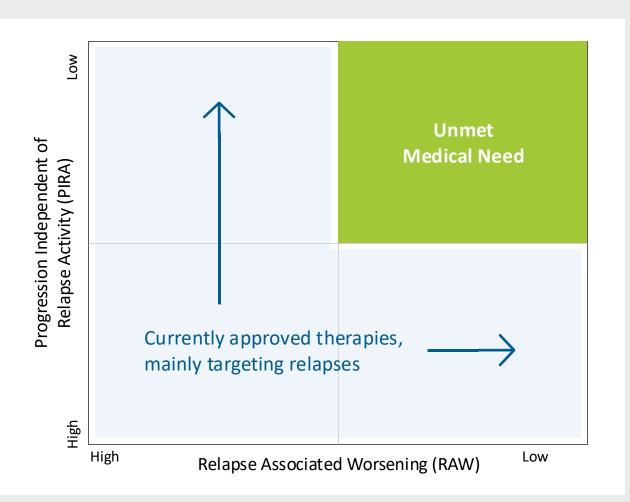
Development in Relapsing Multiple Sclerosis (RMS)

# Vidofludimus Calcium Could be the First Treatment Option for Relapsing MS Fulfilling the Current Unmet Needs of Patients



Goals for New Relapsing Multiple Sclerosis Treatments

- Developing a new therapy offering:
  - Neuroprotection and effect on progression independent of relapse activity (PIRA)
  - Excellent safety and tolerability
  - Easy to use, convenient oral administration without complex screening requirements
- Developing a new therapy for newly diagnosed patients and as an excellent switch opportunity





# EMPhASIS: Completed Phase 2 Trial in Relapsing-Remitting MS NCT03846219



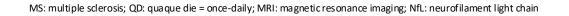
#### **Coordinating Investigator**

Robert J. Fox, M.D. Cleveland Clinic



Double-Blind, Placebo-Controlled, Randomized, Parallel-Group Trial

- Blinded main treatment period of 24 weeks
- Cohort 1: 30 and 45 mg or placebo QD
- Cohort 2: 10 mg or placebo QD
- Extended treatment period of up to 9.5 years ongoing to observe long-term safety is ongoing

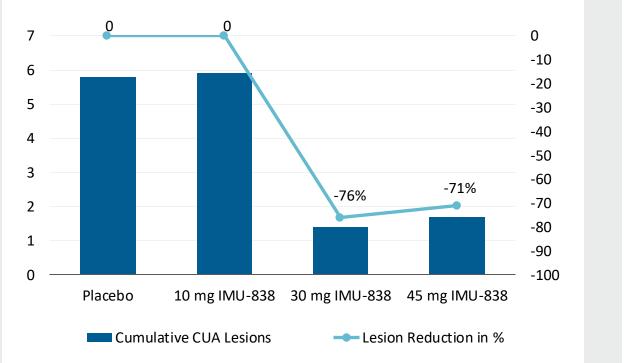




- Randomized 268 patients in 36 centers across four European countries
- Vidofludimus calcium showed strong activity in relapsingremitting MS population
  - Primary and key secondary endpoints met with high statistical significance: strong reduction of MRI lesion activity
  - Reduced serum NfL concentrations
  - Signal in preventing confirmed disability worsening
- Vidofludimus calcium's safety profile was similar to placebo
  - No general safety signals observed
  - Low discontinuation rates, considerably lower than placebo

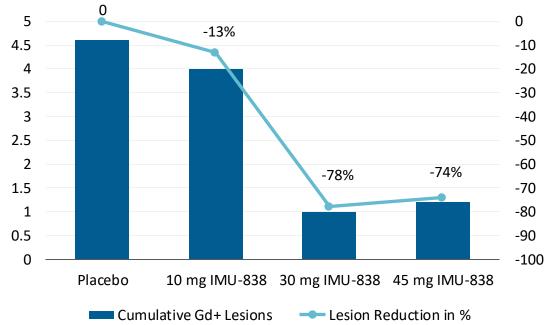


### EMPhASIS: Strong Reduction of MRI Lesion Activity Primary Endpoint Hit With High Statistical Significance, Pooled Cohorts 1 & 2



Reduction in Cumulative CUA Lesions up to Week 24

Reduction in Gd+ Lesions up to Week 24

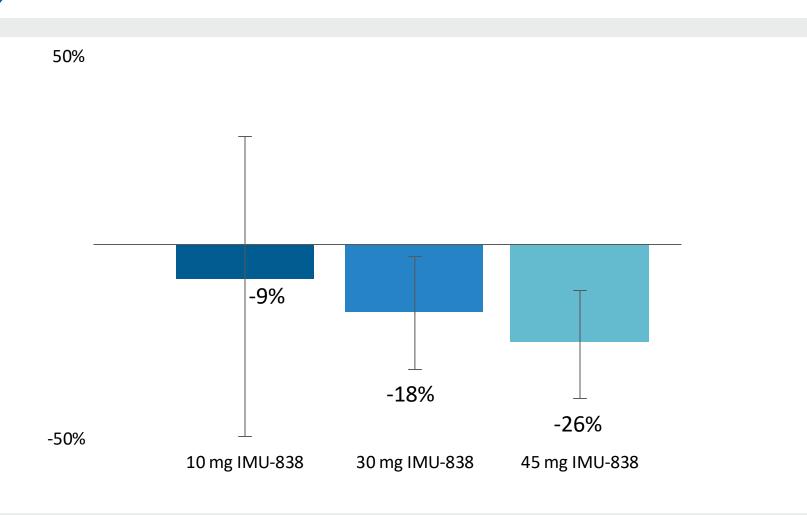


# Primary and key secondary endpoints of cumulative number of new CUA lesions up to week 24 met with high statistical significance (primary 45 mg vs. placebo: p = 0.0002 / key secondary 30 mg vs. placebo: p < 0.0001)

As Cohort 2 only allowed MRI machines of 1.5T, pooled data of Cohorts 1 & 2 only include patients that were evaluated at MRI field strength of 1.5 Tesla. Modified full an alysis set C1/C2 (N10 = 47, N30 = 65, N45 = 66, NPBO C1 = 59, NPBO C2 = 12) Data displayed are as adjusted mean values. Estimates are adjusted for baseline volume of T2 lesions and baseline number of Gd+ lesions (0, >=1) using a generalized linear model with a negative binomial distribution and a bgarithmic link function. Log transformation of time from first investigational medicinal product (IMP) dose to date of last MRI assessment with non-missing values is used as offset term / RRMS: relapsing-remitting multiple sclerosis; MRI: magnetic resonance imaging; CUA: cumulative unique active, Gd+: gadolinium-enhancing



#### EMPhASIS: Reduction of Serum NfL Concentrations Observed Versus Placebo After 24 Weeks, Pooled Cohorts 1 & 2



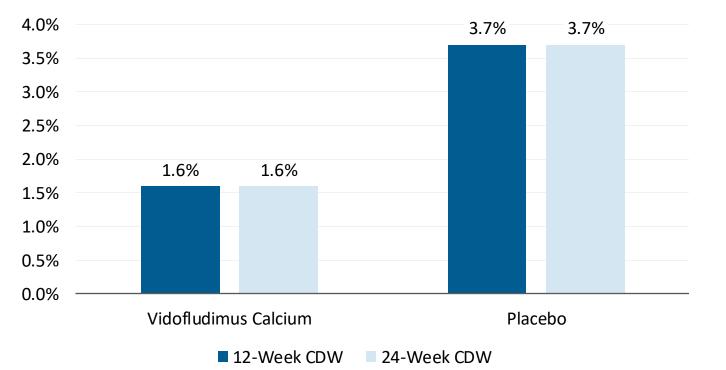
Displayed are median values of differences between percentage change of serum neurofilament light chain concentration (Hodges-Lehmann estimation), treatment vs. placebo Data shows 10 mg versus placebo for Cohort 2 and 30/45 mg versus placebo for Cohort 1; NfL: neurofilament light chain Vidofludimus calcium showed remarkable reduction in NfL levels in all active doses tested compared with placebo

- Clear dose-response relationship in NfL reduction
- Higher doses expected to show stronger neuroprotective effects



### EMPhASIS: Reduced Confirmed Disability Worsening Events End of 24-Week Blinded Treatment Period

CDW Events at the End of the 24-Week Blinded Treatment Period



CDW: confirmed disability worsening; EDSS: Expanded Disability Status Scale

Only disability worsenings with a trigger point during the 24-wek blinded treatment period are considered. The EDSS increases during the blinded treatment phase were subsequently confirmed during open-label extension phase of the trial. Patients at risk in this analysis are 187 for vidofludimus calcium (pooling 10, 30 and 45 mg data) and 81 for placebo. The trigger event is an EDSS progression defined as an increase in the EDSS compared to Baseline of at least 1.5 points if Baseline EDSS = 0, of at least 1.0 points if Baseline EDSS of 1-5, or of at least 0.5 points if Baseline EDSS  $\geq$  5.5

12-week CDW: The confirmation event is at least 77 days after the trigger event. At the confirmation event and each assessment between trigger and possible confirmation event, EDSS must be at least as high as at the trigger event.

24-week CDW is are defined analogously, the only difference being the time interval between trigger event and confirmation visit, which is at least 161 days. Full analysis set pooled cohorts 1&2 (N10 = 47, N30 = 71, N45 = 69, NPBO C1 = 69, NPBO C2 = 12)  Signal in preventing 12-week and 24-week confirmed disability worsening events as compared to placebo

 Confirmatory data will be obtained in phase 3 ENSURE clinical program



#### EMPhASIS: Low Rates of Confirmed Disability Worsening Events Interim Analysis Open-Label Extension Period 12-Week CDW Events

Proportion of patients free of 12-week confirmed disability worsening after 1 and 2 years of open-label extension vidofludimus calcium treatment

100% •	97.2%	94.2%
90%		
80%		
70%		
60%		
50%		
40%		
30%		
20%		
10%		
0%		
0	48	96
	Weeks of Open-Label Extension Treatment	

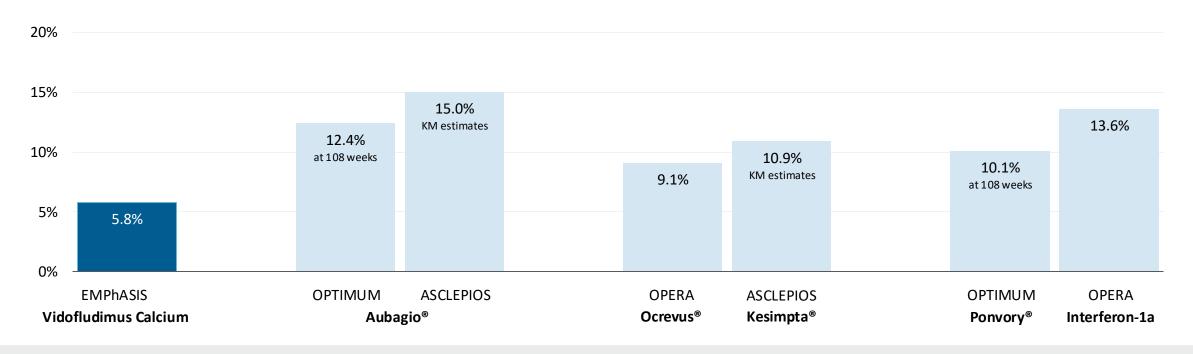
Few patients on continuous treatment with vidofludimus calcium developed 12-week confirmed CDW events over a 2-year time frame

CDW: confirmed disability worsening; EDSS: Expanded Disability Status Scale; Only disability worsenings compared to start of extended treatment are considered. Patients at risk in this analysis are 223 at 48 weeks and 158 for 96 weeks. This includes all patients randomized to either place bo or any dose of vidofludimus calcium. After 24 week of blinded treatment, all patients continued with open-label treatment with either 30 mg or 45 mg vidofludimus calcium. Survival rates and times estimated by the Kaplan-Meier method. 95% CI for rates based on Greenwood's formula.; The trigger event is an EDSS progression defined as an increase in the EDSS compared to Baseline of at least 1.5 points if Baseline EDSS = 0, of at least 1.0 points if Baseline EDSS of 1-5, or of at least 0.5 points if Baseline EDSS ≥ 5.5 12-week CDW: The confirmation event is at least 77 days after the trigger event. At the confirmation event and each assessment between trigger and possible confirmation event, EDSS must be at least as high as at the trigger event.



#### EMPhASIS: 12-Week Confirmed Disease Worsening After 2 Years Interim Analysis Open-Label Extension Period Compared to Select Historical Trials

#### RRMS patients with 12-week (3-months) confirmed disability worsening after 2 Years (96 Weeks) (% of patients at risk)



The trigger event is any EDSS progression during the open-label extension (OLE) period defined as an increase in the EDSS compared to start of the OLE period (Baseline) of at least 1.5 points if Baseline EDSS = 0, of at least 1.0 points if Baseline EDSS = 0, of at least 1.0 points if Baseline EDSS of 1-5, or of at least 0.5 points if Baseline EDSS ≥ 5.5. Patients with RRMS at risk in this EMPhASIS analysis are 158 at 96 weeks. Data cut-off was Oct 16, 2022. This includes all patients randomized to either placebo or any dose of vidofludimus calcium during the 24-week blinded treatment period and then continued with open-label treatment with either 30 mg or 45 mg vidofludimus calcium. Survival rates and times estimated by the Kaplan-Meier method. 95% CI for rates based on Greenwood's formula.; 12-week CDW: The confirmation event is at least 77 days after the trigger event. At the confirmation event and each assessment between trigger and possible confirmation event, EDSS must be at least as high as at the trigger event.; 24-week CDW is are defined analogously, the only difference being the time interval between trigger event and confirmation visit, which is at least 161 days.; KM: graphical estimates from published Kaplan-Meier curves; EDSS: Expanded Disability Status Scale; RRMS: relapsing-remitting multiple sclerosis. All trials performed in RRMS. Vidofludimus Calcium: Immunic data; OPTIMUM: Kappos et al. 2021; ASCLEPIOS: Hauser et al. 2020; OPERA: Hauser et al. 2017



# Vidofludimus Calcium: Unrivaled Safety and Tolerability Profile Observed in Multiple Clinical Trials

- Safety profile similar to placebo: no general safety signals observed in clinical trials so far
- No increased rates of diarrhea, neutropenia, or alopecia
- No increased rates of infections and infestations or hematology values

- Drug exposure tested in more than 1,800 human subjects and patients, to date
- Low rates of adverse events
- No signals for hepatotoxicity or elevations of liver enzymes and no Hy's law cases observed to date

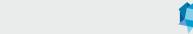


#### Vidofludimus Calcium's Safety Profile to Date is Unique

	PML risk	Increased number of infections	Vaccination limitations	Gastrointestinal toxicities, incl. diarrhea	Cardiovascular risks, incl. blood pressure	Lymphopenia	Neutropenia	Risk of liver injury	Increased risk of cancer	Macular edema
Vidofludimus Calcium								•	•	•

• Favorable profile

PML: progressive multifocal leukoencephalopathy



# EMPhASIS: Vidofludimus Calcium Well-Tolerated With Adverse Events Similar to Placebo

Safety & Tolerability Endpoints	Placebo	Vidofludimus Calcium 30 mg	Vido fludimus Calcium 45 mg
Any treatment-emergent adverse event	44%	45%	41%
Treatment-emergent adverse events occurring in >5% of total patients by preferred term			
Headache	6%	4%	6%
Nasopharyngitis	4%	4%	7%
Treatment-emergent adverse events occurring in 2%-5% of total patients by preferred term			
Upper respiratory tract infection	4%	3%	0%
Viral respiratory tract infection	4%	0%	3%
Treatment-emergent adverse events occurring in >1 to <2% of total patients by preferred term			
Back pain	3%	1%	0%
ALT increase	3%	1%	0%
Influenza	3%	0%	1%
Liver enzymes elevated	1%	1%	3%
Nausea	1%	1%	3%
Bronchitis	1%	0%	3%
Alopecia	0%	4%	1%
Fatigue	0%	3%	3%
Rash	0%	3%	3%
Cystitis	0%	1%	4%
Treatment-emergent adverse events by severity			
Mild	33%	41%	30%
Moderate	12%	16%	23%
Severe	1%	0%	0%
Series adverse events	1%	3%	0%
Treatment discontinuation for any reason	7%	3%	6%
Treatment-emergent adverse events leading to treatment discontinuation	4%	0%	3%

The observed adverse events were generally mild in nature. There were very few adverse events with medium and high incidence rate.



# **EMPhASIS:** Patients Feel Well-Treated With Vidofludimus Calcium



# Reflected in Low Discontinuation Rates for Vidofludimus Calcium-Treated RRMS Patients, Considerably Lower Than Placebo\*

	Vidofludimus Calcium	Glatiramer Acetate <sup>[1]</sup>	Aubagio <sup>® [2]</sup>	Tecfidera <sup>® [3]</sup>	Gilenya <sup>® [4]</sup>	Zeposia <sup>® [5]</sup>
Administration	Oral	Injectable	Oral	Oral	Oral	Oral
Daily Dose	30 mg QD	20 mg QD	14 mg QD	240 mg TID	1.25 mg QD	1 mg QD
Treatment Period	24 weeks	9 months	36 weeks	24 weeks	6 months	24 weeks
Active Treatment	2.8%	5.9%	19.3%	15.6%	5.4%	2.3%
Placebo	7.2%	5.8%	6.6%	9.2%	6.5%	3.4%

\*The table summarizes the data on treatment/study discontinuation rates of the commercial dose in phase 2 trials of RRMS drugs. If the commercial dose was not included in the phase 2 trials, the dose closest to the commercial dose was shown. This high-level comparison is provided for illustrative purposes only, is based on publicly available data and does not purport to be a comprehensive comparison or depiction of the other trials. Larger data sets than presented in this presentation are publicly available for certain of the compounds included on this slide. Please note that these results are taken from placebo-controlled trials, and these medications have not been tested in head-to-head assessments.

[1] Comi et al. Ann Neurol. 2001;49(3):290-297 [2] O'Connor et al. Neurology. 2006;66(6):894-900 [3] Kappos et al. Lancet. 2008;372(9648):1463-1472 [4] Kappos et al. N Engl J Med. 2006;355(11):1124-1140 [5] Cohen JA, Arnold DL, Comi G, et al. Lancet Neurol. 2016;15(4):373-381; QD: qua que die = once-daily; TID: ter in die = three times daily; RRMS: relapsing-remitting multiple sclerosis



### ENSURE: Ongoing Pivotal Phase 3 Trials in Relapsing MS NCT05134441 & NCT05201638



#### **Coordinating Investigator**

Robert J. Fox, M.D. Cleveland Clinic

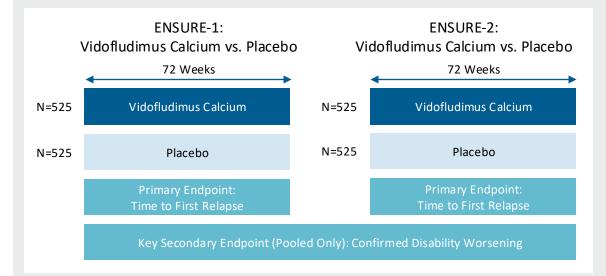


#### Included Patient Population: Relapsing Forms of MS

- Adult patients aged 18 to 55 years
- Established diagnosis of MS (revised McDonald criteria 2017)
- Confirmed relapsing MS (1996 Lublin criteria<sup>[1]</sup>)
- Active disease as defined by Lublin 2014
- EDSS score at screening between 0 to 5.5

#### Two Multicenter, Randomized, Double-Blind Phase 3 Trials

- Approximately 1,050 patients in each trial
- More than 100 sites in the United States, Latin America, Central and Eastern Europe, and India in each trial
- Randomization to 30 mg vidofludimus calcium or placebo QD
- Positive interim analysis: Unblinded IDMC recommended continuing trial without changes, including no need for a potential upsizing
- Completion of ENSURE-1 expected in Q2/2026, ENSURE-2 in H2/2026





 <sup>[1]</sup> Lublin FD, et al. Neurology. 2014;83(3):278-286
 MS: multiple sclerosis; EDSS: Expanded Disability Status Scale; QD: quaque die = once-daily

Vidofludimus Calcium in Multiple Sclerosis (MS)

Development in Progressive Multiple Sclerosis (PMS)

## CALLIPER: Designed to Guide Potential Confirmatory Phase 3 Program in Progressive Multiple Sclerosis



Phase 2 trial evaluating efficacy, safety and tolerability of 45 mg vidofludimus calcium

- Broad set of PMS patient subtypes: primary progressive MS, non-active secondary progressive MS and active secondary progressive MS
- Multiple MRI, clinical and biomarker outcomes



Goal is to determine whether to proceed to a confirmatory phase 3 program in one or more of the PMS subtypes

- Achieve proof-of-concept for one or more of the PMS subtypes
- Properly plan a phase 3 program current phase 2 trial is large enough to define effect on clinical disability worsening, the accepted approvable endpoint
- Validate the potential neuroprotective effects of vidofludimus calcium in an MS patient population where disease is no longer driven by focal inflammation – and hence, any disability benefit demonstrates an effect of the drug on slowing down PIRA

MS: multiple sclerosis; PMS: progressive MS; MRI: magnetic resonance imaging; PIRA: progression independent of relapse activity



# CALLIPER: Patients with PMS, Particularly Non-Active Disease, Remain Underserved With Limited to No Treatment Options

Despite 15+ treatments approved for RMS in recent years, patients with PMS remain underserved with limited to no treatment options

Currently, there is no treatment for nonactive/non-relapsing SPMS and only one treatment approved for PPMS<sup>[1]</sup>

Most therapies targeting relapses through anti-inflammatory mechanisms have not shown a clinical benefit in PMS<sup>[2]</sup>



Neurodegenerative pathological mechanisms in the brain are believed to form the dominant origin of PMS requiring drugs with neuroprotective properties to be effective<sup>[3]</sup>

Vidofludimus calcium activates the neuroprotective transcription factor nuclear receptor-related 1 (Nurr1)<sup>[4]</sup>, which is associated with direct neuroprotective effects shown on both neuronal and microglial cells in preclinical experiments

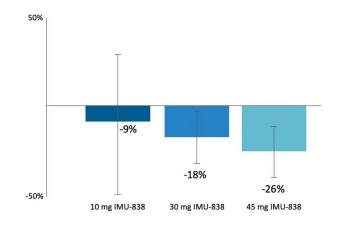
[1] https://www.fda.gov/news-events/press-announcements/fda-approves-new-drug-treat-multiple-sclerosis [2] Ontaneda D., Fox R.J., Curr Opin Neurol. 2015 Jun;28(3):237-43 [3] Amin M., Hersh C.M., Neurodegener Dis Manag. 2023 Feb;13(1):47-70 [4] Vietor et al., Journal of Medicinal Chemistry 2023 66 (9), 6391-6402 / RMS: relapsing multiple sclerosis; PMS: progressive multiple sclerosis; SPMS: secondary progressive multiple sclerosis; PPMS: primary progressive multiple sclerosis



## Phase 2 EMPhASIS Trial Outcomes Drove Excitement for PMS Treatment Potential

In the phase 2 EMPhASIS trial in RRMS, the following observations provided the rationale for testing vidofludimus calcium as a possible neuroprotective therapy in PMS:

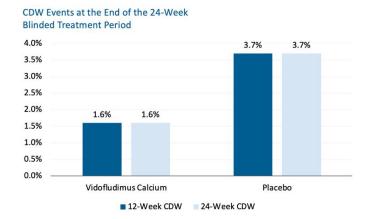
Dose-dependent reduction of the biomarker serum neurofilament light chain (NfL)



EMPhASIS: vidofludimus calcium showed a remarkable reduction in NfL levels after 24 weeks in all active doses tested compared with placebo

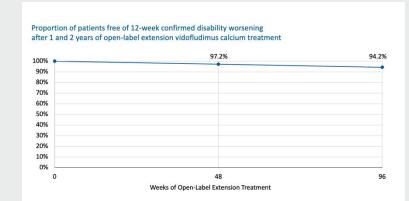
MS: multiple sclerosis; PMS: progressive MS; RRMS: relapsing-remitting MS

Substantial numerical reduction of confirmed disability worsening (CDW) favoring vidofludimus calcium



EMPhASIS: vidofludimus calcium showed a signal in preventing 12-week and 24-week CDW events as compared to placebo

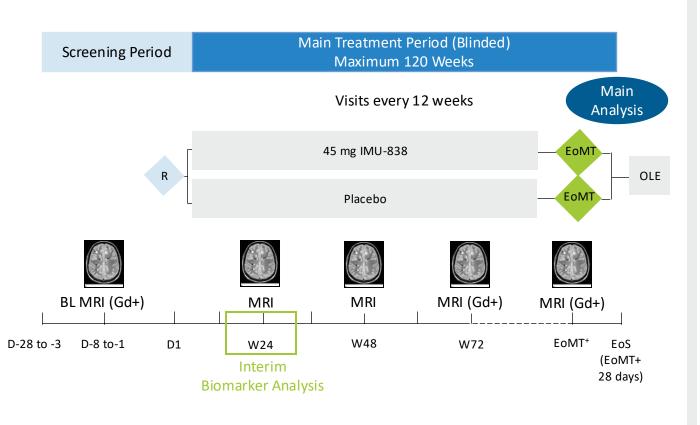
Low rates of confirmed disability worsening events (<6% of patients) in 2-year open-label treatment



EMPhASIS: only a few patients on continuous treatment with vidofludimus calcium develop 12-week CDW events over a 2-year time frame



# CALLIPER: Ongoing Phase 2 Clinical Trial in Progressive MS NCT05054140



#### Coordinating Investigator: Robert J. Fox, M.D., Cleveland Clinic

#### +EoMT: at W120 or when last enrolled patient reaches W72

BL: baseline; D: day; EoMT: end of main treatment period; EoS: end of study; MRI: magnetic resonance imaging; Gd+: gadolinium-enhancing; OLE: open-label extension; R: randomization; W: week; QD: qua que die = once-daily; EDSS: Expanded Disability Status Scale; PPMS: primary progressive multiple sclerosis; SPMS: secondary progressive multiple sclerosis; SPMS: secon

#### Multicenter, Randomized, Double-Blind, Placebo-Controlled Phase 2 Trial

- 467 patients enrolled at more than 70 sites in North America, Western, Central and Eastern Europe
- Randomization to 45 mg vidofludimus calcium or placebo QD
- Primary endpoint: annualized rate of percent brain volume change up to 120 weeks
- Key secondary endpoint: time to 24-week confirmed composite disability progression based on EDSS, timed 25-foot walk and 9-hole peg test
- Blinded main treatment period up to 120 weeks
- Optional, approximately 8-year, open-label extension period



#### Included Patient Population: Progressive Forms of MS

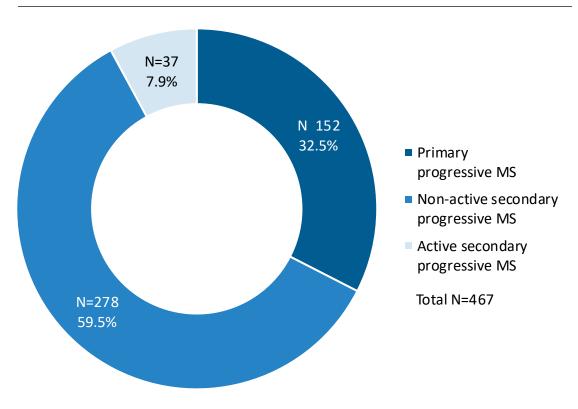
- Adult patients aged 18 to 65 years
- PPMS or SPMS diagnosis (revised McDonald criteria 2017)
- EDSS score at screening between 3.0 to 6.5
- No evidence of relapse in last 24 months before randomization
- Evidence of disability progression



### CALLIPER: Patient Demographics and Baseline Characteristics Total Study Population of 467 Enrolled Patients



#### Progressive Disease Subtypes





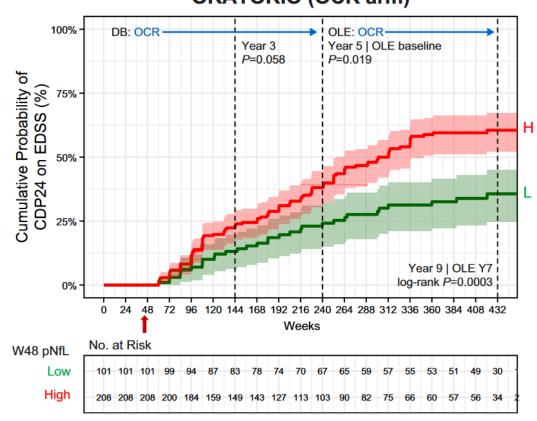
### **Baseline Characteristics**

Baseline Patient Characteristics	Total (N=467)			
Age [years], median (min-max)	51.0 (21-65)			
Gender (n and % female)	302 (64.7%)			
Race (n and % White)	460 (98.7%)			
BMI [kg/m <sup>2</sup> ], median (min-max)	25.0 [15.8 – 46.6]			
SDMT [points], median (min-max)	35.0 [0-180]			
EDSS at Visit 1, median (min-max)	5.5 [2.5-6.5]			
MS relapses during last 24 months, median (min-max)	0.0 [0-1]			
Gd+ lesions at baseline MRI (%)	16.3%			

Disease subtype information are used as diagnosis entered by investigator at study entry. Definition non-active SPMS (according to CALLIPER protocol): no evidence of relapse in the last 24 months before randomization, AND patients showing no evidence ofGd+ MRI lesions in the brain or spinal cord in the last 12 months; definition non-relapsing SPMS: no evidence of relapse in the last 24 months before randomization. PMS subtypes as assessed by the investigator at study entry and as of deadline for the interim analysis in October 2023. Final CALLIPER analysis will be performed based on "as randomized", so the PMS subtype numbers may slightly change. / BMI: body mass index; SDMT: Symbol Digit Modalities Test; EDSS: Expanded Disability Status Scale; Gd+: gadolinium-enhancing; MRI: magnetic resonance imaging



## PPMS Patients Treated with Ocrelizumab That Achieved Lower Levels of NfL Had a Lower Risk for Future Disability



#### ORATORIO (OCR arm)

# Ocrelizumab ORATORIO Study in PPMS as Historical Comparison

- Blood NfL levels re-baselined at Week 48, an optimized cut-off was created between high (H) and low (L) NfL levels
- Patients then followed in continuing double-blind and/or OLE treatment with ocrelizumab, monitored for 24-week CDP over 8 years

#### Findings:

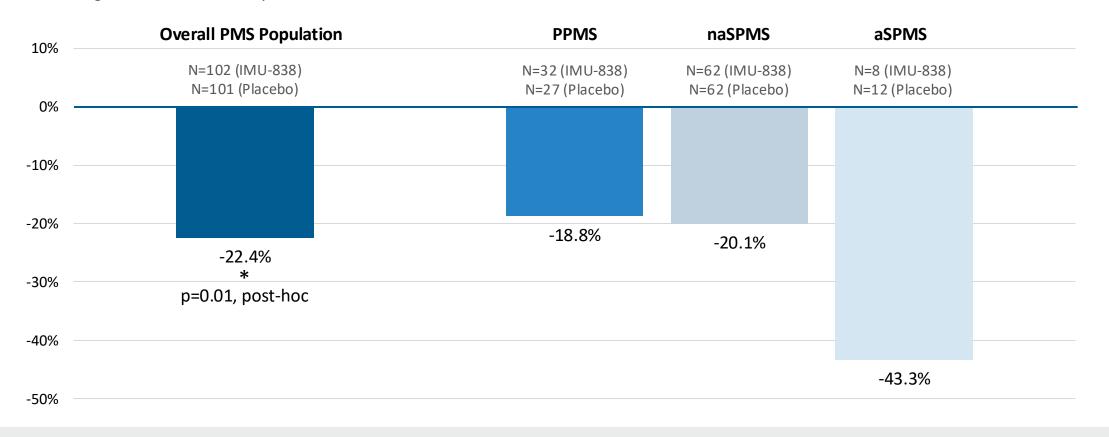
- Relationship found between Week 48 blood NfL and risk for subsequent 24-week CDP in PPMS patients
- Patients with low NfL levels have a lower risk of future disability worsening

Bar-Or A. et al., EBioMedicine. 2023 Jul;93:104662

PPMS: primary progressive multiple sclerosis; OCR: ocrelizumab; DB: double-blind; OLE: open-label extension; EDSS: Expanded Disability Status Scale; H: high; L: low; pNfL: plasma neurofilament light; sNfL: serum neurofilament light; CDP: confirmed disability progression



## CALLIPER Interim Data: Improvements in Serum NfL for Vidofludimus Calcium Consistent Throughout the Overall PMS Population and All Subtypes

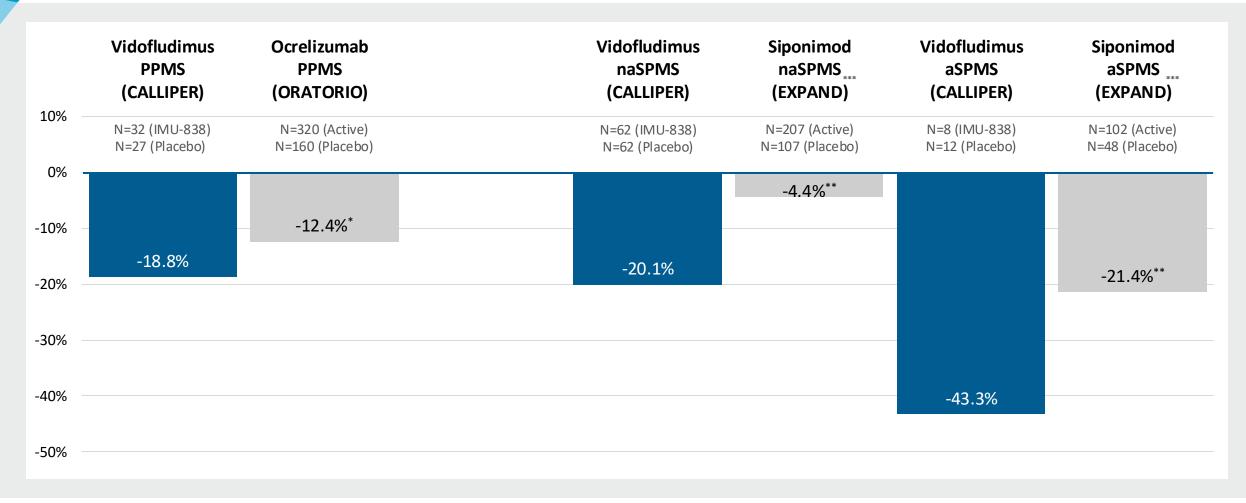


Mean Change to Week 24 as Compared to Placebo in % of Baseline

Standard deviation for change from baseline in % of baseline: CALLIPER week 24: IMU-838 35.7%, PPMS: IMU-838 7.1%, naSPMS: IMU-838 14.7%, aSPMS: IMU-838 10.3%, 95% Hodges-Lehmann confidence bound EMPhASIS week 24 for 45 mg IMU-838: lower boundary -41.0%, upper boundary -12.0%, includes all randomized patients with available neurofilament data at interim analysis, arithmetic mean value for group averages; aSPMS and naSPMS designation as per diagnosis by clinical investigator at study entry NfL: neurofilament light chain; PMS: progressive multiple sclerosis; PPMS: primary PMS; SPMS: na: non-active; a:active



## NfL Reduction Compares Favorably with Other MS Therapies CALLIPER Interim Data Compared to Select Historical Trials



CALLIPER: N = Number of patients in the 45 mg IMU-838 groups, only patients with both baseline and week 24 values considered for change from baseline analysis, arithmetic mean value for group averages; includes all randomized patients with available NfL data at interim analysis Standard deviation for change from baseline in % of baseline: CALLIPER week 24: IMU-838 5.7%; 95% Hodges-Leh mann confidence bound EMPhASIS week 24 for 45mg IMU-838: lower boundary -41.0%, upper boundary -41.0% ORATORIO: Bar-Or A. et al., EBioMedicine. 2023 Jul;93: 104662; EXPAND: Leppert D., et al., Neurology. 2022 May 24;98(21):e2120-e2131; OBOE: Cross A. et al., Neurology Apr 2019, 92 (15 Supplement) 556.008; evobrutinib: Kuhle J. et al., AAN 2021 Virtual Congress \*plasma NfL levels; \*\* 12-month data, geometric mean; \*\*\* Displayed are data for subpopulation without relapses (aSPMS); NdTL: neurofilament light chanis; PPMS: primary progressive multiple sclerosis; SPMS: secondary progressive multiple sclerosis; SPMS: econdary progressive multiple sclerosis; SPMS: Secondary progressive multiple sc



## CALLIPER: Results Will Educate Potential Phase 3 Program in Progressive Multiple Sclerosis With a Focus on Clinical and Safety Outcomes

# What Would Make CALLIPER a Positive Study?

A medically meaningful and numerical reduction of disability, measured by EDSS+/EDSS, supported by biomarker, functional and MRI data



- Measures disability outcomes beyond the established EDSS score
- Composite endpoint that includes 9-hole peg test and timed 25-foot walk test in addition to EDSS
- Captures dimensions of upper and lower extremity utilization which are important and relevant for patients
- → Has become acceptable to regulators in recent years for progressive MS study outcomes



### 24-Week Confirmed Disability Worsening

- → Decision point for conducting pivotal phase 3 trial
- → Relatively large sample size and the overall expected number of disability events during the CALLIPER trial expected to provide clinically meaningful and reliable assessment of point estimate of treatment effect (hazard ratio) for vidofludimus calcium in PMS patients

EDSS: Expanded Disability Status Scale; MRI: magnetic resonance imaging; PMS: progressive multiple sclerosis



## **CALLIPER: Additional Outcome Measures**



## **MRI-Based Endpoints**

- Change in brain volume has traditionally been the most widely studied technical MRI endpoint in PMS populations
- Newer MRI-based endpoints have shown promise in PMS (such as slowly expanding lesions, grey/white matter volume, cervical spinal dimensions and thalamic atrophy) and are also available in the CALLIPER trial
- The totality of MRI-based outcomes provide mechanistic biologic correlate for observed functional and disability study outcomes



- Serum neurofilament light chain (NfL) is a biomarker for neuronal loss, relevant for diffuse neuronal loss in PMS
- Glial fibrillary acidic protein (GFAP) is a biomarker for reduction of microglia and astrocyte activity that is believed to be involved in PMS
- Both, NfL and GFAP, are known to correlate with clinical outcomes and can predict future risk of disease progressions and disability events<sup>[1,2]</sup>
- Provide independent confirmation of clinical endpoints and comparison to other PMS trials



- Functional outcomes provide readout for improvement in or maintenance for the quality of life for PMS patients
- CALLIPER trial includes a broad array of functional assessments to measure effects on patients beyond disability, including fatigue, upper and lower extremity function, cognition, assessment of overall well-being and treatment satisfaction, visual acuity
- Expected to provide patient-centric data important for payers and for differentiation of vidofludimus calcium

[1] Benkert P. et al.; Ann Neurol. 2024 Oct 16 [2] Bar-Or A. et al., EBioMedicine. 2023 Jul;93:104662 PMS: progressive multiple sclerosis; MRI: magnetic resonance imaging



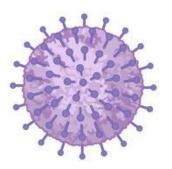
## Vidofludimus Calcium: DHODH Inhibition Provides Broad-Spectrum Antiviral Activity Against Different Pathogenic Viruses



Inhibits Epstein-Barr Virus (EBV) Replication and Reactivation

By targeting the host cell metabolism, vidofludimus calcium has shown to be active against different RNA and DNA viruses *in vitro* 

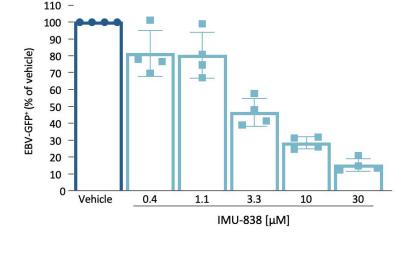
- Shows antiviral activity with EC<sub>50</sub> values in single digit µM range
- Including strong anti-EBV activity





Showed Dose-Dependent Inhibition of EBV Reactivation

Anti-Akata-BX1-EBV-GFP stimulated with hIgG

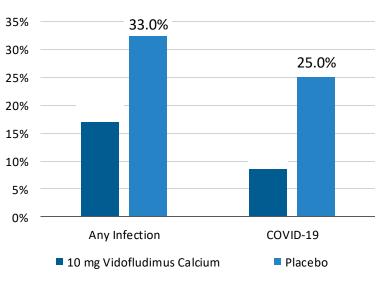




Decreased Number of Opportunistic SARS-CoV-2 Infections

Vidofludimus calcium showed interesting hints for clinical anti-SARS-CoV-2 activity in the phase 2 EMPhASIS trial in RRMS

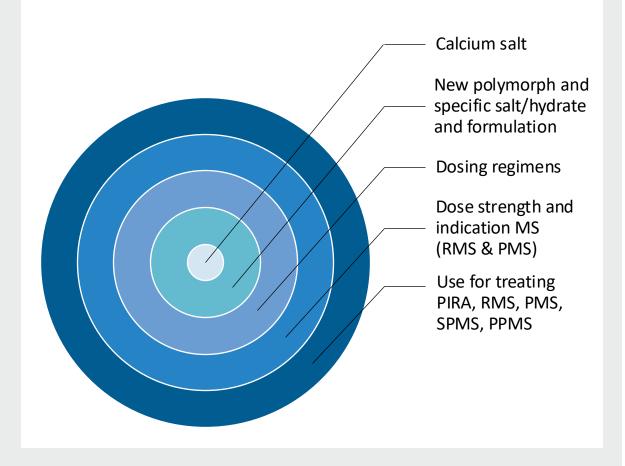
Number of reported COVID-19 cases Cohort 2:



Left: Eur J Clin Invest. 2020;50:e13366 / middle: Marschall et al., Poster ECTRIMS 2021 / right: Immunic data; DHODH: dihydroorotate dehydrogenase; RNA: ribonucleic acid; DNA: deoxyribonucleic acid; EC50: half-maximal effective concentration; EBV: Epstein-Barr virus; hlgG: human immunoglobulin G; SARS-CoV-2: severe acute respiratory syndrome coronavirus; COVID-19: coronavirus disease 2019; RRMS: relapsing-remitting multiple sclerosis



## Several Layers of Patents Protecting Vidofludimus Calcium



#### Eight Independent Patent Families Protecting Vidofludimus Calcium

- IP for superior calcium salt and specific polymorph of the drug product
  - Additional patent directed to specific polymorph matching the only polymorph in the drug product granted in the US and other jurisdictions
- Broad IP for all salts directed to dosing regimens, covers all label-relevant dosing schemes, granted in the US and Japan
- Dose strengths subject of another granted patent in the US
- Use of vidofludimus for treating PIRA as well as other neurodegenerative diseases, also including biomarker-based subgroups, filed in 2023
- Another level of protection expected by data exclusivity based on vidofludimus calcium's classification as New Chemical Entity (NCE)



Patent portfolio expected to provide exclusivity into 2041 in the US, unless extended further

IP: intellectual property; MS: multiple sclerosis; RMS: relapsing MS; PMS: progressive MS; SPMS: secondary progressive MS; PPMS: primary progressive MS; PIRA: progression independent of relapse activity



### Vidofludimus Calcium in Multiple Sclerosis Consistent and Differentiated Results to Date Support Straightforward Path Towards Potential Regulatory Approvals

	EMPhASIS: Positive phase 2 RRMS data demonstrating statistically significant effect on lesion control and relapse prevention, with clear impact on serum NfL Aug 2020				CALLIPER: Positive phase 2 PMS interim data showing clear impact on serum NfL in all subtypes and subpopulations Oct 2023		<b>CALLIPER:</b> PMS top-line data Apr 2025		RMS NDA Submission 2027
2020	)	2021	2022	2023	2024	20	025	2026	2027
				Nov 2022 EMPhASIS: Positive RRMS ope extension data der signal for improver confirmed disabilit	nonstrating ment in	interim an recomme	hase 3 RMS alysis; IDMC ndation to trials as planned	Q2/2026 ENSURE-1: RMS Completion	H2/2026 ENSURE-2: RMS Completion

Although we currently believe that each of these goals is achievable, they are each dependent on numerous factors, most of which are not under our direct control and can be difficult to predict. We plan to periodically review this assessment and provide updates of material changes as appropriate. / MS: multiple sclerosis; RRMS: relapsing-remitting MS; RMS: relapsing MS; PMS: progressive MS; NfL: neurofilament light chain



#### IMU-856

# Restoring a Healthy Gut through Renewal of the Bowel Wall

## IMU-856 Targets Physiological Intestinal Epithelial Regeneration and Restoration of Gut Cell Function





 Innovative oral therapeutic approach potentially applicable to a <u>broad range</u> <u>of gastrointestinal disorders</u>



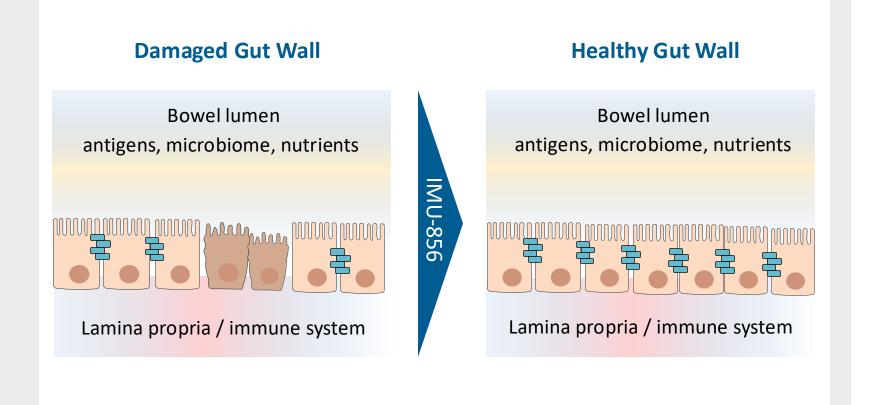
 Targets <u>physiological intestinal</u> <u>epithelial regeneration</u>, including gut hormon-producing cells



 Designed to <u>strengthen gut wall</u> <u>integrity and function without</u> <u>immunosuppression</u>



# **Once-Daily, Oral IMU-856** Aims to Regenerate the Gut Wall and Barrier Function by a New Innovative Targeted Mechanism



#### IMU-856:

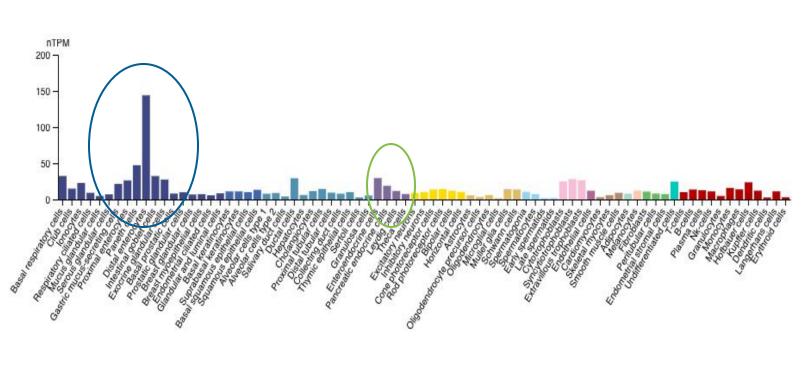
- First-in-class modulator of sirtuin 6 (SIRT6), targets physiological intestinal epithelial regeneration and restoration of barrier function
- Provides protection and enhances transport of nutrients
- This new approach avoids immunosuppression



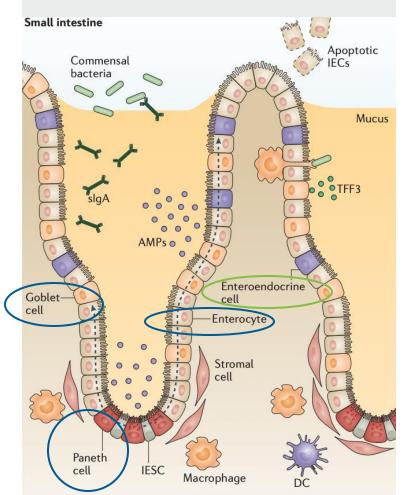
## SIRT6 Target Is <u>Highly Expressed</u> in Gut Epithelial Cells



Highest mRNA Expressions in Paneth Cells, Enterocytes, Goblet Cells and Enteroendocrine Cells such as L-Cells



Left: https://www.proteinatlas.org/ / Right: Peterson, L, Artis, D. Nat Rev Immunol 14, 141–153 (2014) SIRT: sirtuin; mRNA: messenger ribonucleic acid; nTPM: normalized transcript per million

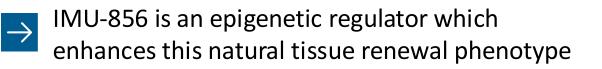




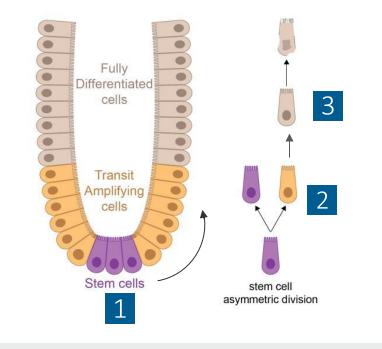
## IMU-856 Enhances the Natural Regenerative Process in the Gut

#### Gut wall renewal is a normal physiological process

- 1. Regeneration begins in the crypts, where intestinal stem cells are located
- 2. Stem cells undergo asymmetric division thereby producing fully differentiated epithelial gut cells and renewing intestinal stem cells
- 3. These new epithelial cells are renewing the lining of crypts and villi to maintain healthy gut and proper intestinal barrier



#### Asymmetric cell division renews stem cells and regenerates the gut wall





IMU-856: Additional Pharmacological Effect

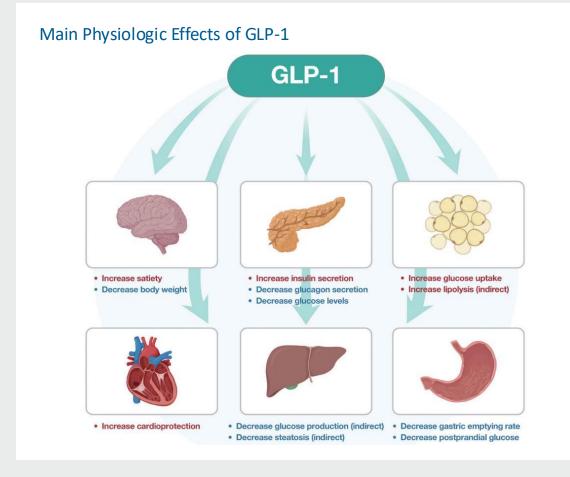
Dose-Dependent Increase of GLP-1 in Patients

## Intestinal Production of GLP-1 Mediates Effects on Body Weight



#### GLP-1: Glucagon-Like Peptide-1

- Peptide hormone generated through enzymatic breakdown of proglucagon
- Endocrine hormone, secreted by enteroendocrine
   L-cells located in the distal jejunum, ileum, and colon in response to nutrient ingestion and neuroendocrine stimulation
- Typical physiological increase in GLP-1 levels in healthy humans after a meal is 2-3 times
- GLP-1 increase leads to slow gut motility, lower food intake, increase satiety and induce insulin secretion



Left: Review Zheng, Z., Zong, Y., Ma, Y. et al. Sig Transduct Target Ther 9, 234 (2024); right: Jakubowska A, Roux CWL, Viljoen A. Endocrinol Metab (Seoul). 2024 Feb;39(1):12-22

## IMU-856: Effects on Body Weight in Preclinical Experiment and on Blood GLP-1 Levels in Celiac Disease Clinical Trial



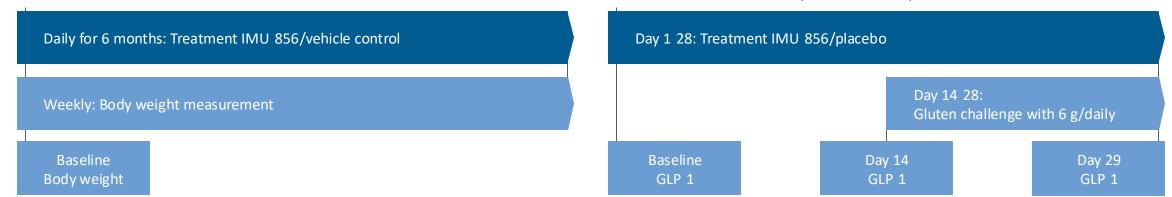
6-Months In Vivo Study

- Regulated GLP study<sup>[1]</sup> to support clinical development
- Daily oral treatment of rats<sup>[2]</sup> for 6 months
- Dosing: 0 (vehicle), 10, 25, 75 mg/kg/day of IMU-856
- Weekly body weight measurement



#### Phase 1b Clinical Trial of IMU-856

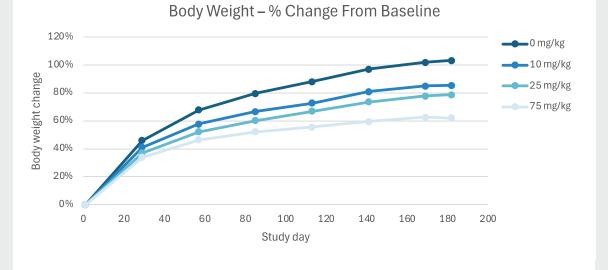
- Designed to explore effects of gluten challenge in a celiac disease patient population
- Total of 43 patients enrolled (IMU-856: N=29)
- Dosing: 80 and 160 mg QD of IMU-856, or placebo
- Double-blind treatment period of 28 days, 13 days without and 15 days with 6 g daily gluten challenge
- Patients measured post hoc for plasma GLP-1 concentrations



[1] according to ICH M3(R2) [2] Wistar Han rats / GLP-1: glucagon-like peptide-1; GLP: Good Laboratory Practice; QD: quaque die = once-daily; ICH: International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use



## In a 6-Months *In Vivo* Study, IMU-856 Dose-Dependently Reduced Weight Gain



Reduction of weight gain in % compared to vehicle control

10 mg/kg -18 % 25 mg/kg -23 % 75 mg/kg -40 %

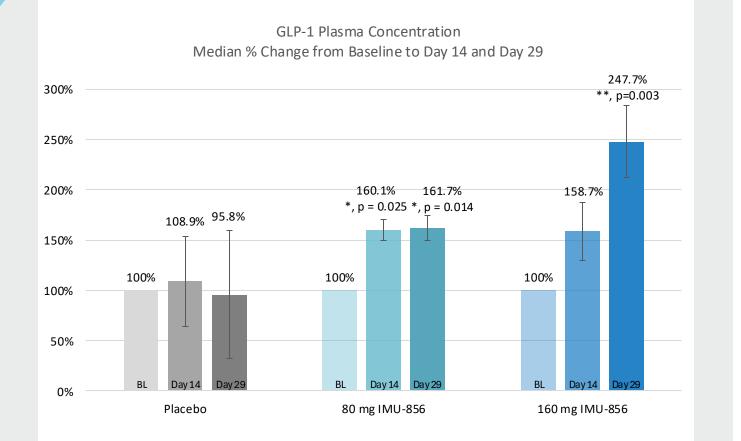
- Dose-dependent effect on body weight gain
- Linked to reduced food consumption
- Effect in both males and females
- No effect on general health condition



Reduced body weight gain observed in 6-month toxicology study. Rats were 7-8 weeks old at study start and were expected to gain weight over the course of the study. Data show less weight gain in IMU-856 treated animals in connection with reduced food consumption.



## Confirmation of Effects as Part of Phase 1b Clinical Trial: IMU-856 Dose-Dependently Increased GLP-1 in Celiac Disease **Patients**



28-day phase 1b clinical trial of IMU-856 in celiac disease

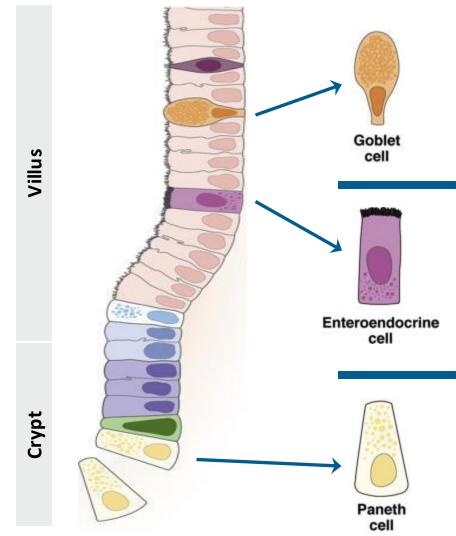
- Patients measured for plasma GLP-1 concentrations: N=11 (placebo), N=13 (80 mg IMU-856), N=13 (160 mg IMU-856)
- Baseline: Day 1, N=37 over all arms
- Day 14: before start of challenge, N=36
- Day 29: after last treatment on Day 28, N=32
- Morning baseline levels under fasting conditions

- Dose-dependent increase of endogenous GLP-1 levels of up to 2.5 times versus placebo control
- Typical physiological increase in GLP-1 levels in healthy humans after a meal is also 2-3 times

Statistics: two-sided Mann-Whitney U, treatment vs. placebo at Day 14 and Day 29 / GLP-1: glucagon-like peptide-1; BL: baseline



### Main Secretory Epithelial Cells of the Small Intestine and Colon Epithelium All Have Been Shown to Express SIRT6 Target



Produce and release a protective <u>mucus layer</u>, with the main component of this mucus being a protein called mucin

Secret <u>gastrointestinal hormones</u>: such as gastric inhibitory peptide (GIP), glucagon-like peptides (GLP-1 and GLP-2), cholecystokinin (CCK), ghrelin, neurotensin, serotonin (5hydroxy-tryptamine or 5-HT), and peptide YY (PYY)

Secrete <u>antimicrobial</u> peptides and proteins, most notably defensins

Meyer AR, Brown ME, McGrath PS, Dempsey PJ. Cell Mol Gastroenterol Hepatol. 2022;13(3):843-856 / SIRT: sirtuin



# IMU-856: A Novel Mechanism Offering Potential to Go Beyond Existing GLP-1, GLP-2, GIP Mimetics



**SIRT6 Targeting Approach** IMU-856

- Functional improvement of enteroendocrine and other epithelial cells through increasing physiologic cell regeneration in gut wall
- Secretion of the physiological GLP-1 protein and possible increase of secretion of multiple incretins (currently being investigated)
- Improvement of gut barrier and functionality in general
- Oral administration, small molecule



- Providing synthetic peptides that mimic the natural hormones secreted by enteroendocrine cells
- Targets one or two target incretins only (at this point)
- Injectable, peptide



# Obesity Market Expected to Reach More Than \$170 Billion Globally by 2031<sup>[1]</sup>



### Unmet Needs Still Exist to Address This Growing Medical Challenge

- Obesity and overweight are among the fastest growing and most prevalent chronic human conditions in the world affecting ~2.5 billion adults worldwide<sup>[2]</sup>
- The economic impact of obesity and overweight in the United States is estimated to be \$706 billion, increasing to \$2.6 trillion by 2060<sup>[3]</sup>
- GLP-1 receptor agonist class has revolutionized obesity treatment but there are still unmet needs for novel mode of actions, oral administration, increased tolerability and greater efficacy
- Current drugs in development are mainly peptidomimetics with challenges in oral administration

[1] GlobalData Pharma DECODED, Feb. 11th 2025 "Obesity: Seven-Market Drug Forecast and Market Analysis – Update" [2] https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight#~:text=ln%202022%2C%202.5%20billion%20adults%20aged%2018%20years%20and%20older,1990%20to%2020%25%20in%202022
 [3] https://data.worldobesity.org/economic-impact-new/countries/US.pdf



#### IMU-856 in Celiac Disease

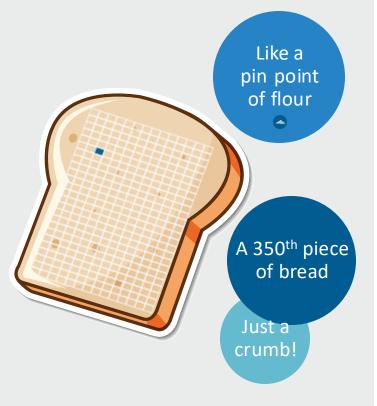
Demonstrated Clinical Proof-of-Concept in a Phase 1b Clinical Trial

## Celiac Disease Currently Has No Adequate Treatment Options

- Two million patients diagnosed with celiac disease in the US; more than one million more undiagnosed<sup>[1,2]</sup>
- Most studies report between 24% and 47%<sup>[3-8]</sup> of patients with signs and symptoms of ongoing active celiac disease (OACD) despite a gluten-free diet, most likely due to continuous (inadvertent) gluten exposure
- Only established therapeutic option is a life-long strict adherence to a gluten-free diet<sup>[9]</sup>, which involves complete avoidance of proteins from wheat, barley, and rye
- Gluten challenge is an accepted concept for clinical trials in celiac disease

[1] Singh et al., Clinical Gastroenterology and Hepatology 2018;16:823–836 [2] Choung et al., Mayo Clin Proc. 2016 Dec 5:S0025-6196(16)30634-6 [3] Lebwohl et al., Aliment Pharmacol Ther. 2014 March ; 39(5): 488–495 [4] Lanzini et al., Aliment Pharmacol Ther. 2009; 29(12):1299–308 [5] Ciacci et al., Digestion. 2002; 66(3):178–85 [6] Selby et al., Scand J Gastroenterol. 1999; 34(9):909–14 [7] Rubio-Tapia et al., Am J Gastroenterol. 2010; 105(6):1412–20 [8] Sharkey et al., Aliment Pharmacol Ther. 2013; 38(10):1278–91 [9]: https://nationalceliac.org/celiac-disease-questions/understanding-gluten-levels/ (text and picture)

# 10 mg of gluten is the total limit for all foods combined for the entire day.



#### How much is 10 mg of gluten?

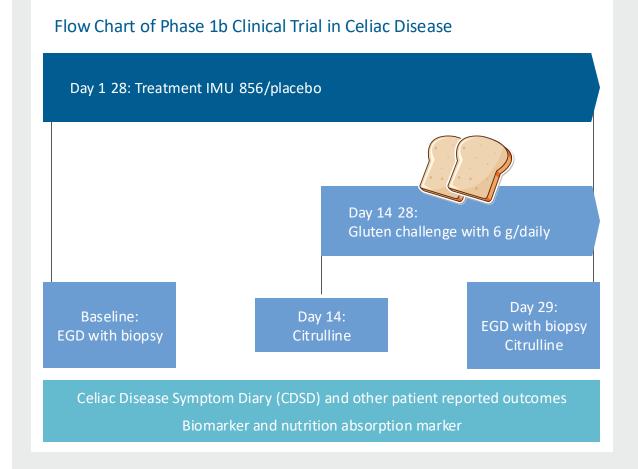


## IMU-856 Demonstrated Clinical Proof-of-Concept in a Phase 1b Clinical Trial in Celiac Disease



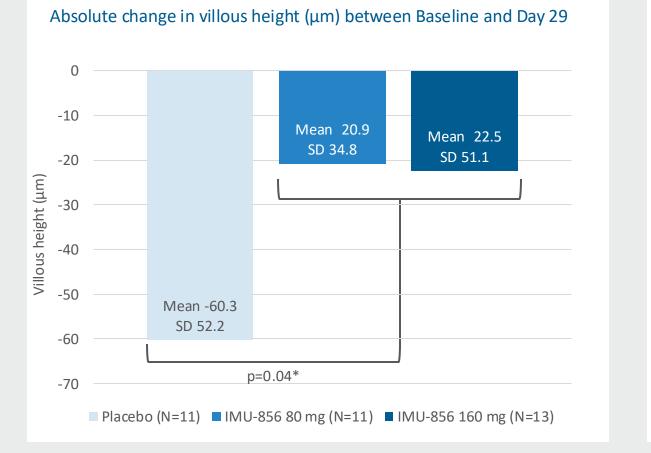
#### Proof-of-Concept Study Designed as a Gluten Challenge Trial

- Celiac disease used as disease model to provide clinical proof-of-activity of IMU-856 in a 28-day trial setting
- Designed to explore effects of gluten challenge in a celiac disease patient population
- Dosing: 80 and 160 mg QD of IMU-856, or placebo
- 43 patients enrolled (IMU-856: N=29)
- Assessed safety, tolerability, pharmacokinetics, and pharmacodynamics of IMU-856
- Proof-of-concept: measured histological changes, blood biomarkers of epithelial mass, nutrient uptake and disease-related symptoms





## IMU-856 Protected Against Gluten-Induced Decrease in Villous Height as Compared to Placebo





- Substantial protection for IMU-856 treatment groups as compared to placebo
- Reached statistical significance\* for this objective readout which is known to be relevant to influence future medical complications of celiac disease
- Assessed by central pathology laboratory and blinded pathology reader

\* Wilcoxon Two-Sample Test comparison between pooled IMU-856 groups and placebo, performed as post-hoc exploratory statistical analysis

Disease Analysis Set: N=35/43 included in histology analysis set. 8 patients not included in this analysis due to early termination. Gluten Challenge for 15 days with 6 g daily. Central pathology laboratory: Jilab Inc. Tampere, Finland EGD: esophagogastroduodenoscopy; SD: standard deviation

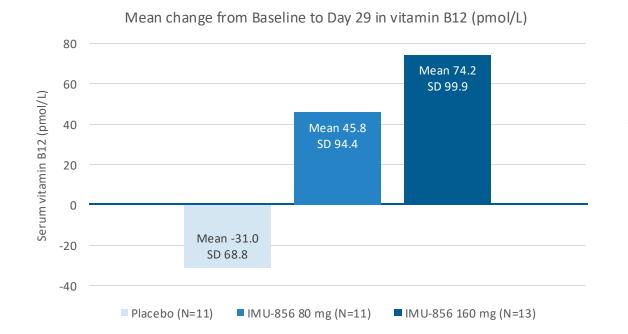


# IMU-856 Improved Uptake of Actively Transported Essential Nutrients Vitamin B12 and Zinc

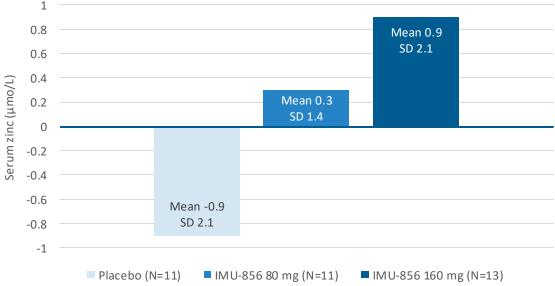


Vitamin B12





Mean change from Baseline to Day 29 in zinc ( $\mu$ mol/L)



#### SD: standard deviation



### Immunic Therapeutics

# Summary

# **Summary:** Vidofludimus Calcium Is a Derisked Near-Term Opportunity

**Innovative clinical pipeline:** First in class oral drugs with unique modes of actions for multiple sclerosis and gastrointestinal diseases in various phases of clinical development

#### **Relapsing MS opportunity is meaningful and de risked:**

Oral category going to remain a large portion of overall MS market; peak sales potential for vidofludimus calcium of \$2-6 billion Currently available oral therapies have limitations in benefit/risk profile; there is need for improvement Vidofludimus calcium has the potential to address these shortcomings and transform the oral MS DMT market ENSURE program: Two identical phase 3 clinical trials, designed to achieve potential regulatory approval of vidofludimus calcium in relapsing MS in a low-risk study design; completion of both ENSURE trials expected in 2026

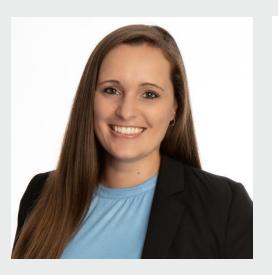
#### **Progressive MS provides tremendous upside opportunity:**

High unmet medical need market: No approved therapies for non-active SPMS; one approved therapy for PPMS (infusion) Peak sales potential for vidofludimus calcium of \$2-4 billion across respective indications CALLIPER trial designed to demonstrate vidofludimus calcium's potential for neuroprotective activity in a non-relapse setting Top-line data from CALLIPER trial expected in April 2025

#### **Financials:**

Cash position: USD 35.7 million (as of Dec 31, 2024), shares outstanding: 90,150,869 (as of Mar 15, 2025)

## Thank You!



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