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

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the month of October, 2021.

Commission File Number: 001-40530

GH Research PLC

(Exact name of registrant as specified in its charter)

28 Baggot Street Lower
Dublin 2
D02 NX43
Ireland
(Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F:

Form 20-F ☒ Form 40-F ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): ☐

On October 26, 2021, GH Research PLC (the "Company") made available on its website an updated investor presentation to be used for presentation at a non-deal roadshow starting October 26, 2021, organized by Stifel, Nicolaus & Company, Incorporated. A copy of the investor presentation is attached hereto as Exhibit 99.1.

The fact that this presentation is being made available and furnished herewith should not be deemed an admission as to the materiality of any information contained in the materials. The information contained in the presentation is being provided as of October 26, 2021 and the Company does not undertake any obligation to update the presentation in the future nor to update forward-looking statements to reflect subsequent actual results.

SIGNATURE

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, thereunto duly authorized.

GH Research PLC

Date: October 26, 2021

By: /s/ Julie Ryan
Name: Julie Ryan
Title: Group Finance Director

EXHIBIT INDEX

Exhibit No.	Description
99.1	Corporate Presentation for October 2021

GH Research

Corporate Presentation

GH Research PLC (NASDAQ: GHRS)

October 2021

Disclaimer Regarding Roadshow Communications and Forward-Looking Statements

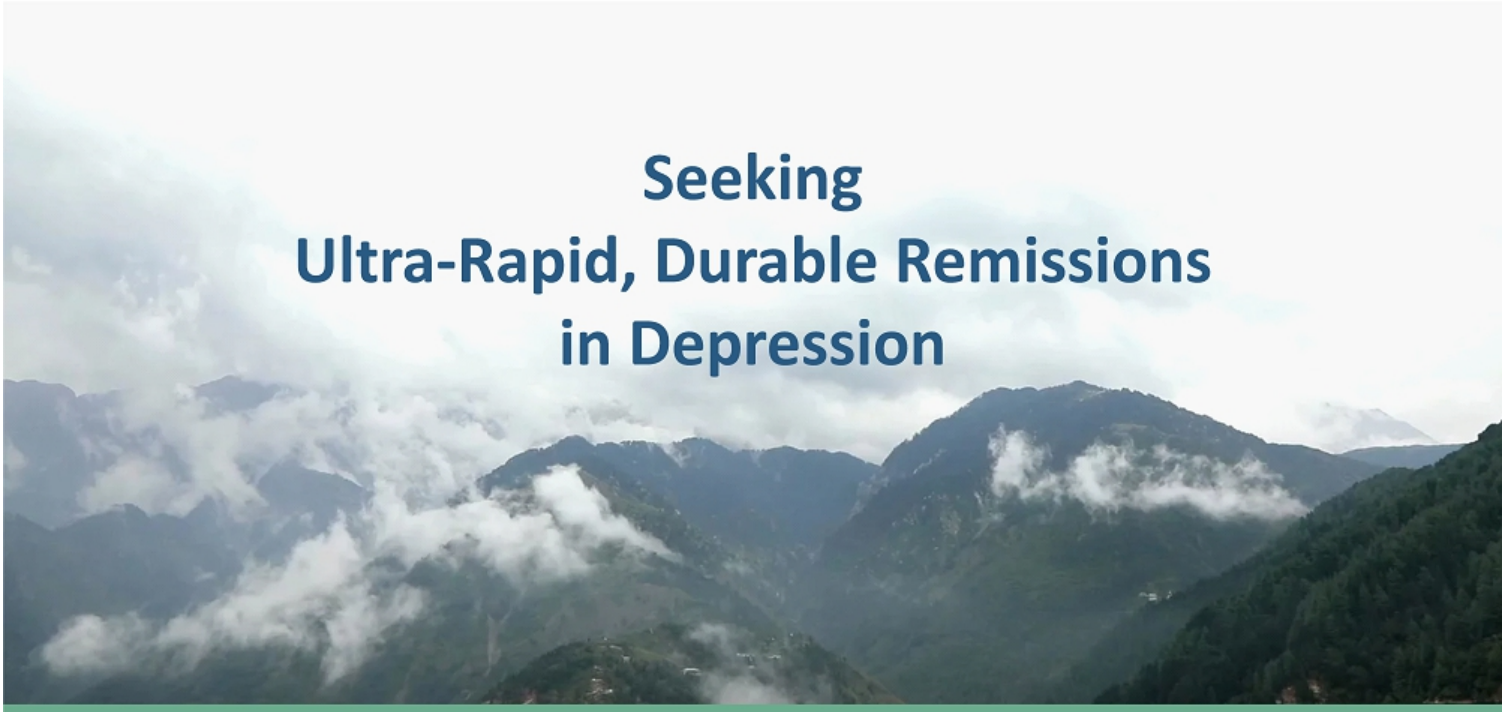
This presentation has been prepared by GH Research PLC ("GH Research") for informational purposes only and not for any other purpose. Nothing contained in this presentation is, or should be construed as, a recommendation, promise or representation by the presenter or GH Research or any director, employee, agent, or adviser of GH Research. This presentation does not purport to be all-inclusive or to contain all of the information you may desire.

This presentation does not constitute an offer to sell or the solicitation of an offer to buy securities, nor shall there be any sale of these securities in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction.

This presentation contains forward-looking statements, all of which are qualified in their entirety by this cautionary statement. Many of the forward-looking statements contained herein can be identified by the use of forward-looking words such as "may", "anticipate", "believe", "could', "expect", "should", "plan", "intend", "estimate", "will", "potential" and "ongoing", among others, although not all forward-looking statements contain these identifying words.

Any statements contained herein that do not describe historical facts are forward-looking statements that are based on management's expectations and are subject to certain factors, risks and uncertainties that may cause actual results, outcomes, timing and performance to differ materially from those expressed or implied by such statements. These factors, risks and uncertainties include, but are not limited to: the costs and uncertainties associated with our research and development efforts; the inherent uncertainties associated with the conduct, timing and results of nonclinical and clinical studies of our product candidates; our ability to obtain, maintain, enforce and defend issued patents; the adequacy of our capital resources and availability of additional funding; and other factors, risks and uncertainties described in our filings with the U.S. Securities and Exchange Commission.

Except as otherwise noted, these forward-looking statements speak only as of the date of this presentation, and we undertake no obligation to update or revise any of such statements to reflect events or circumstances occurring after this presentation. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. We caution you not to place undue reliance on the forward-looking statements contained in this presentation



Seeking Ultra-Rapid, Durable Remissions in Depression

Status

- GH Research was founded in 2018
  - Seed Finance, 2018: Founders, BVF Partners LP
  - Series A, 2020: BVF Partners LP, Founders
  - Series B, 2021: RA Capital (co-lead), RTW Investments LP (co-lead), alongside other new investors, BVF Partners LP and Founders / Board of Directors
  - IPO, 2021 NASDAQ: GHRS

  → Total capital raised: 315M USD

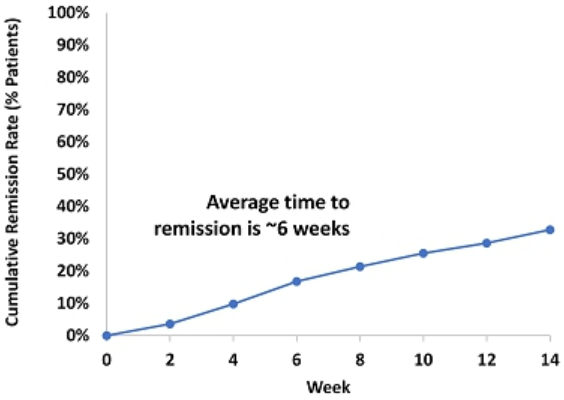
- GH001 (5-MeO-DMT for inhalation) is core focus
  - Completed Phase 1 trial in Healthy Volunteers
  - Ongoing Phase 1 clinical pharmacology trial in Healthy Volunteers, expected completion 4Q 2021
  - Ongoing Phase 1/2 trial in Treatment-Resistant Depression (TRD), expected completion 4Q 2021
  - Planning randomized, controlled Phase 2b trial in TRD
  - Planning Phase 2a trials in two new indications

- GH002 (5-MeO-DMT for injection)
  - Ongoing preclinical development

The Problem for Patients with Depression

Established Therapies are Slow-Acting

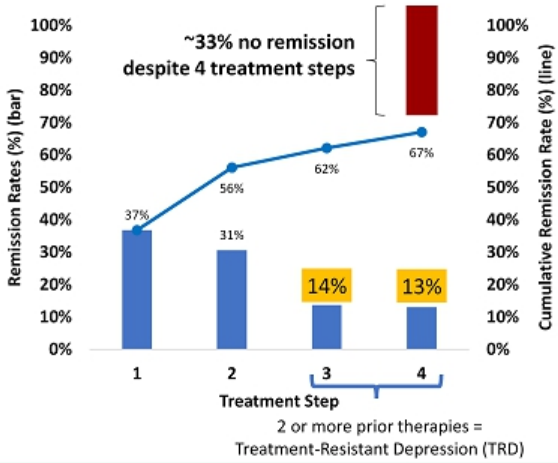
(STAR*D study, Remission Rate Over Time, Treatment Step 1 = Citalopram)



Adapted from Trivedi et al., Am J Psychiatry 2006 and Rush et al., Am J Psychiatry 2006

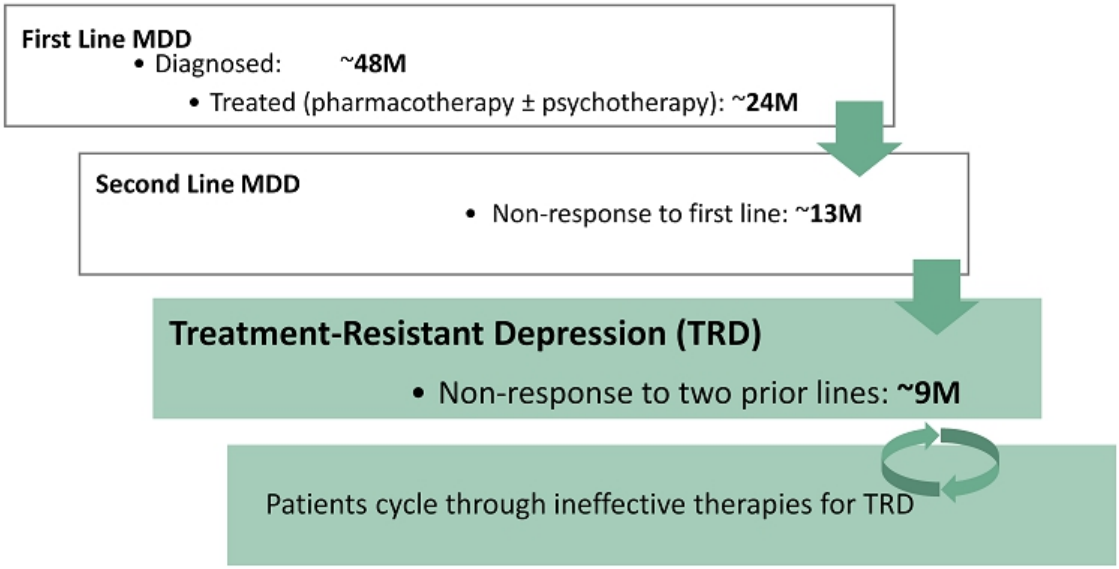
... Remission Rates in TRD < 15%

(STAR*D study, Remission Rates Treatment Steps 1 to 4)



2 or more prior therapies = Treatment-Resistant Depression (TRD)

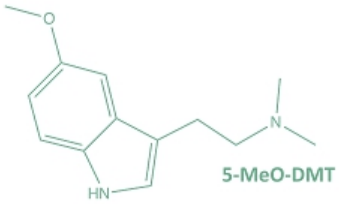
Large and Open Depression Market EU and US



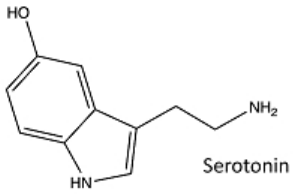
*Company estimates based on: https://www.nimh.nih.gov/health/statistics/major-depression.shtml; Wittchen et al., The size and burden of mental disorders and other disorders of the brain in Europe 2010, European Neuropsychopharmacology (2011); Rush et al., Acute and Longer-Term Outcomes in Depressed Outpatients Requiring One or Several Treatment Steps: A STAR*D Report, Am J Psychiatry 2006*

5-MeO-DMT and GH001

- 5-MeO-DMT (5-methoxy-N,N-dimethyltryptamine)
  - Naturally-occurring psychoactive substance from tryptamine class
  - Structural analogue to serotonin
  - Highly potent agonist on 5-HT1A and 5-HT2A receptors
  - **Psychoactive effects with ultra-rapid onset (within seconds) and short-lived (5 to 30 min)**
  - **High propensity to induce peak experiences (PE), which may be a surrogate marker for therapeutic effects**
  - Proposed mode of action: Normalization (re-set) of disturbed resting-state network connectivity



5-MeO-DMT



Serotonin

- GH001
  - Innovative drug product for 5-MeO-DMT administration via a proprietary inhalation approach

GH001 – Individualized Dosing Regimen Could Achieve Ultra-Rapid and Durable Remissions

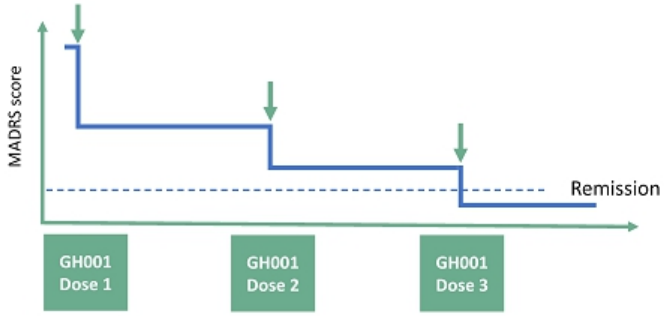
The ultra-rapid action and short half-life of GH001 allows

- Repeated administration **within the same day**
- **Maximization of remissions**
- **Single visit initial treatment, with no structured psychotherapy** required

Foundational IP

Hypothetical Patient 1

Hypothetical Patient 2

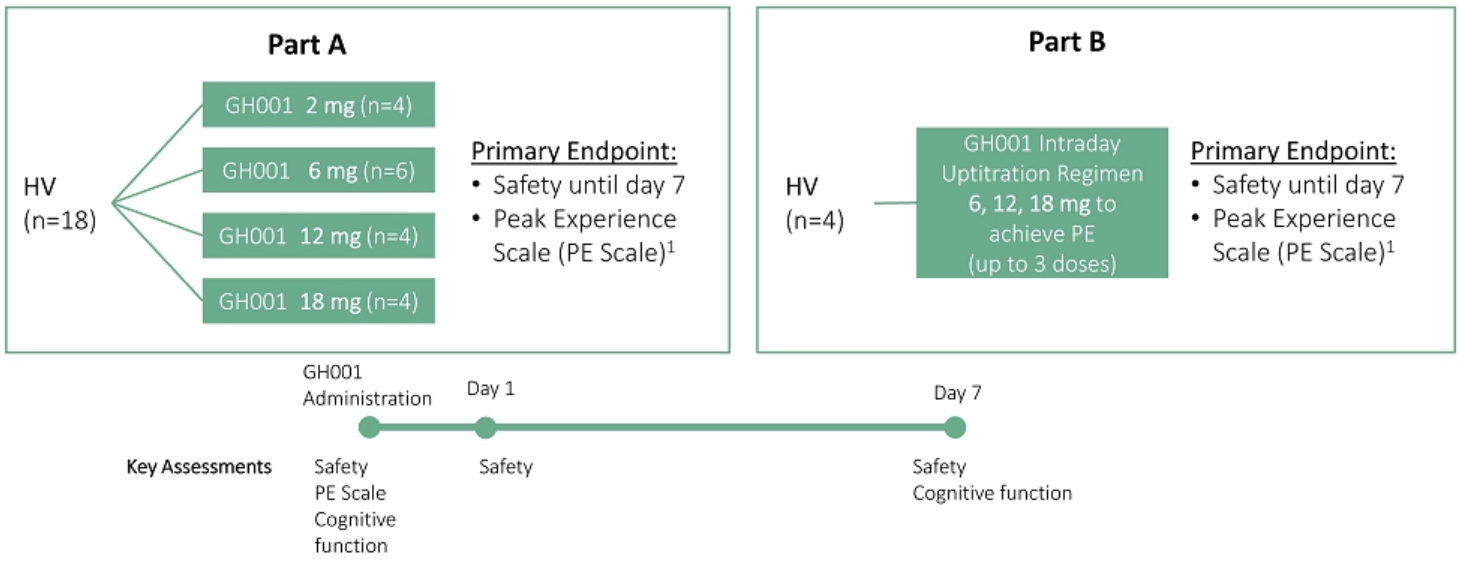


Phase 1 Trial in Healthy Volunteers
GH001-HV-101

(completed)

GH001-HV-101; Clinicaltrials.gov ID NCT04640831

Design of Phase 1 Trial in Healthy Volunteers



PE, peak experience

[1]The PE Scale averages answers scored by the patient by marking a visual analogue scale between 0 and 100 for the following three questions: 1. How intense was the experience; 2. To what extent did you lose control; 3. How profound (i.e., deep and significant) was the experience?

Part A and B – Primary Endpoint Safety

GH Research

Part A - Adverse Drug Reactions

2 mg (n=4)	Day 0	Day 1	Day 7
Nausea	2		
Vision blurred	1		
6 mg (n=6)	**Day 0**	**Day 1**	**Day 7**
Anxiety	1		
Clumsiness		1	
Feeling hot		1	
Headache	1	1	
Nausea	1		
Euphoric mood		1	
Confusional state		1	
12 mg (n=4)	**Day 0**	**Day 1**	**Day 7**
Anxiety	1		
Heart rate increased	1*		
18 mg (n=4)	**Day 0**	**Day 1**	**Day 7**
Nausea	1		
Headache	1		
Hyperacusis		1	
Mental fatigue		1	
Flashback			1
Hallucination		1	
Abnormal dreams		1	
Insomnia		1	
Fatigue		1	

Part B - Adverse Drug Reactions

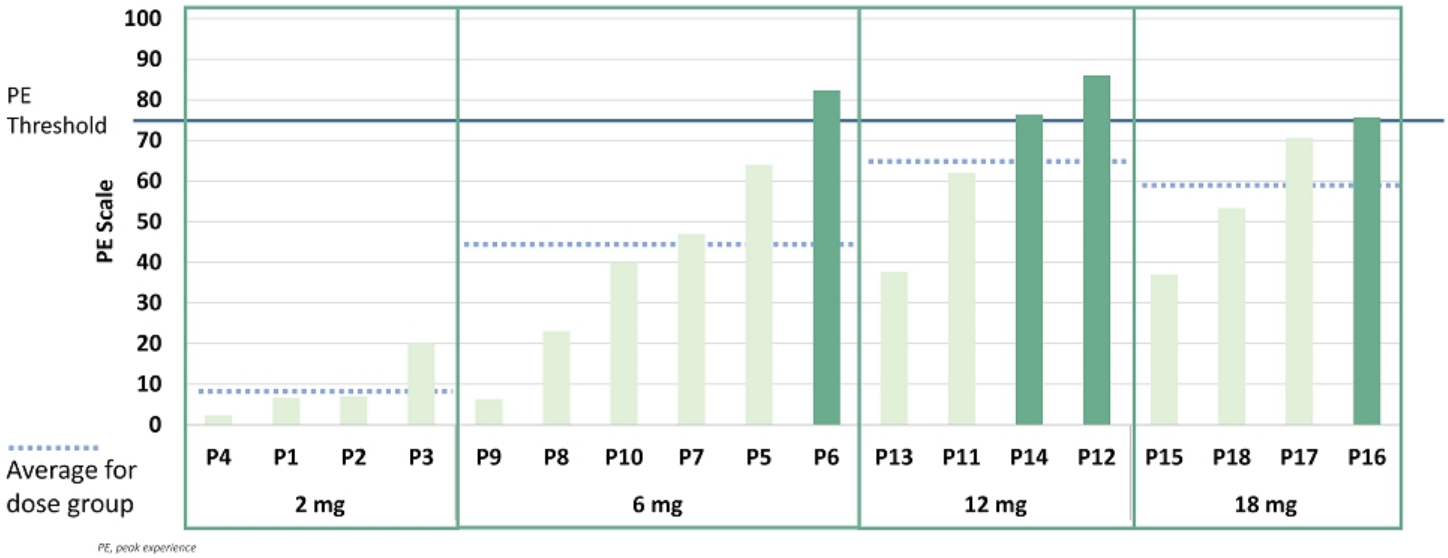
6 mg (n=4)	Day 0	Day 1	Day 7
Nausea	1		
12 mg (n=3)	**Day 0**	**Day 1**	**Day 7**
Headache	1		
Fatigue	1*		
Head discomfort	1		
Nausea	1		
18 mg (n=1)	**Day 0**	**Day 1**	**Day 7**

Study Safety Group review

- **All ADRs mild, except two moderate (*)**
- **All ADRs resolved spontaneously**
- **No SAEs reported**
- **Inhalation well-tolerated**
- No noteworthy changes in vital parameters, except for temporary, non-clinically relevant increase in heart rate and blood pressure shortly after administration of GH001
- No clinically significant changes in safety laboratory analyses, psychiatric safety assessments or measures of cognitive function

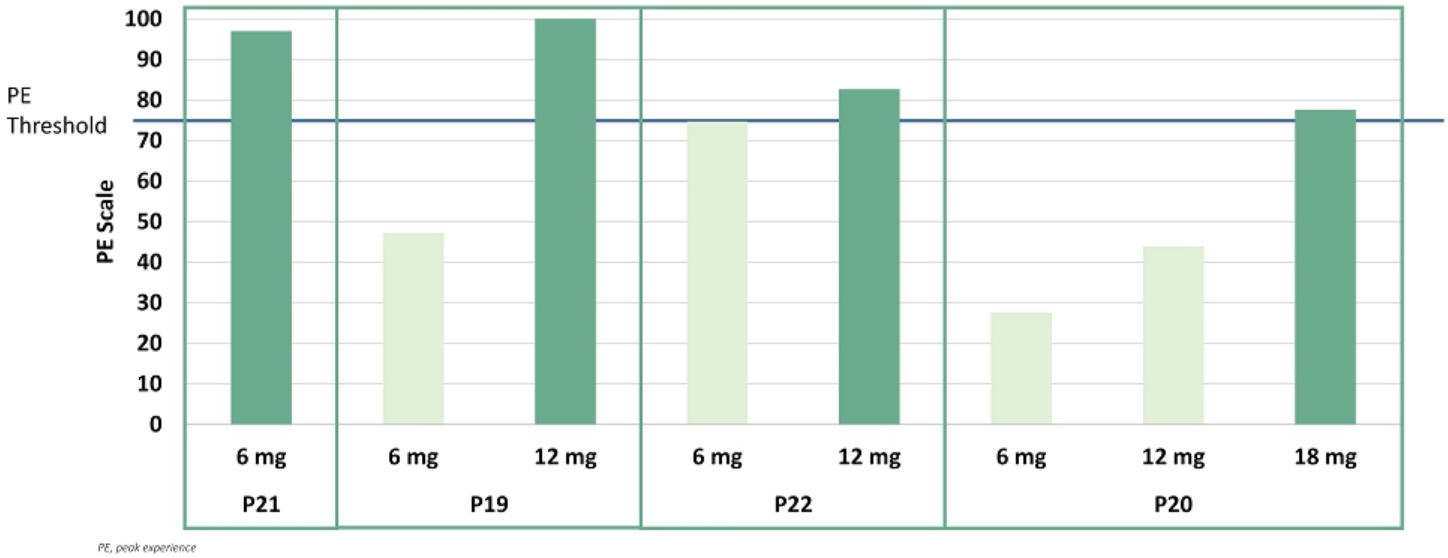
Adverse Drug Reaction, or ADR, an adverse event with a relationship code to the investigational product of definite, probable, or possible, or where code is missing

Part A – Peak Experience (PE) Dose-Effects and Inter-Person Variability



PE, peak experience

Part B – Peak Experience (PE)
Effect of Intraday Uptitration



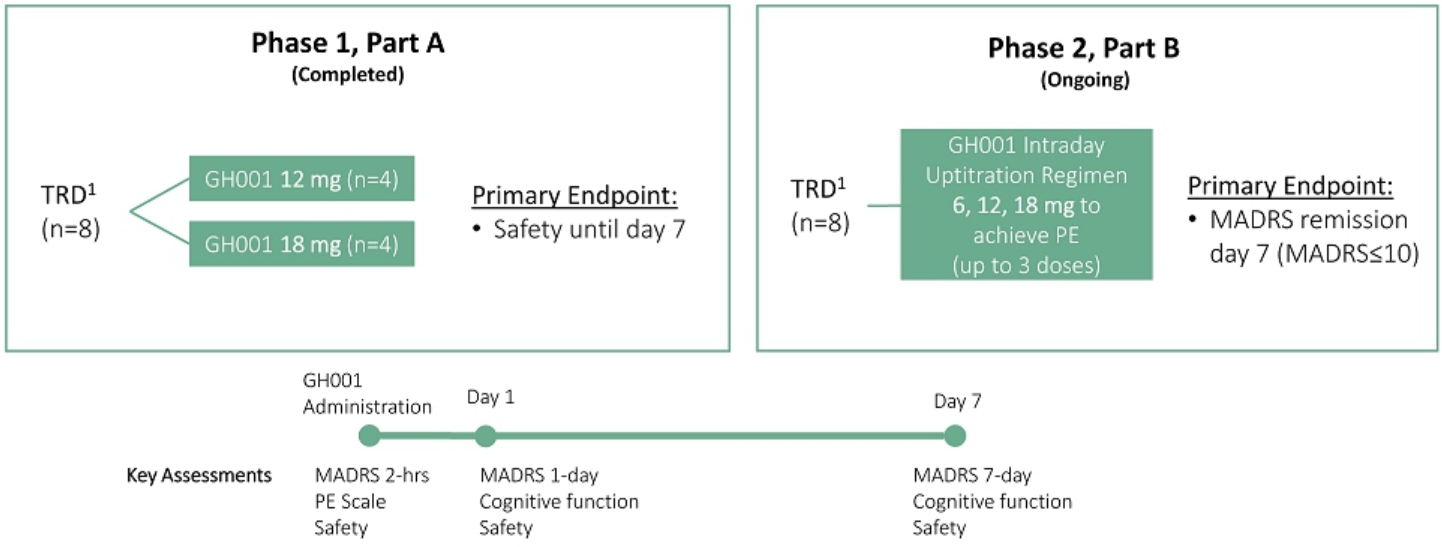
PE, peak experience

Phase 1/2 Trial in Treatment-Resistant Depression GH001-MDD-102

(ongoing)

GH001-MDD-102; Clinicaltrials.gov ID NCT04698603

Design of Ongoing Phase 1/2 Trial in TRD



PE, peak experience; MADRS, Montgomery-Åsberg Depression Rating Scale

[1]Defined as inadequate response to at least two adequate courses of pharmacological therapy or one adequate course of pharmacological therapy and at least one adequate course of evidence-based psychotherapy

Phase 1, Part A – Primary Endpoint Safety

Adverse Drug Reactions

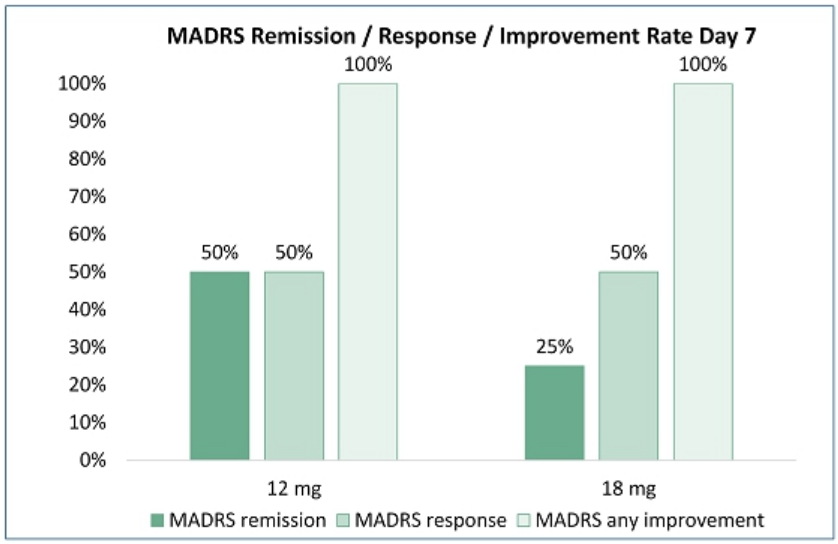
12 mg (n=4)	Day 0	Day 1	Day 7
Dizziness	1		
Headache		2	
Flashback		1	
Feeling abnormal			1
18 mg (n=4)	**Day 0**	**Day 1**	**Day 7**
Feeling abnormal	1		
Muscle spasms	1		
Headache		1	
Flashback		1	

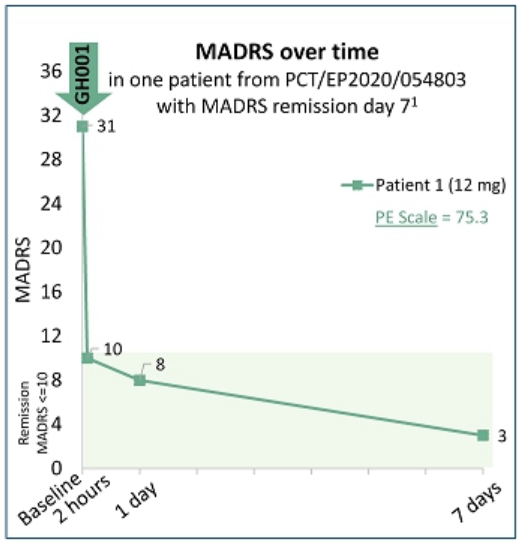
Study Safety Group review

- **All ADRs mild**
- **All ADRs resolved spontaneously**
- **No SAEs reported**
- **Inhalation well-tolerated**
- No clinically significant changes in safety laboratory analyses, vital signs, psychiatric safety assessments or measures of cognitive function

Adverse Drug Reaction, or ADR, an adverse event with a relationship code to the investigational product of definite, probable, or possible, or where code is missing

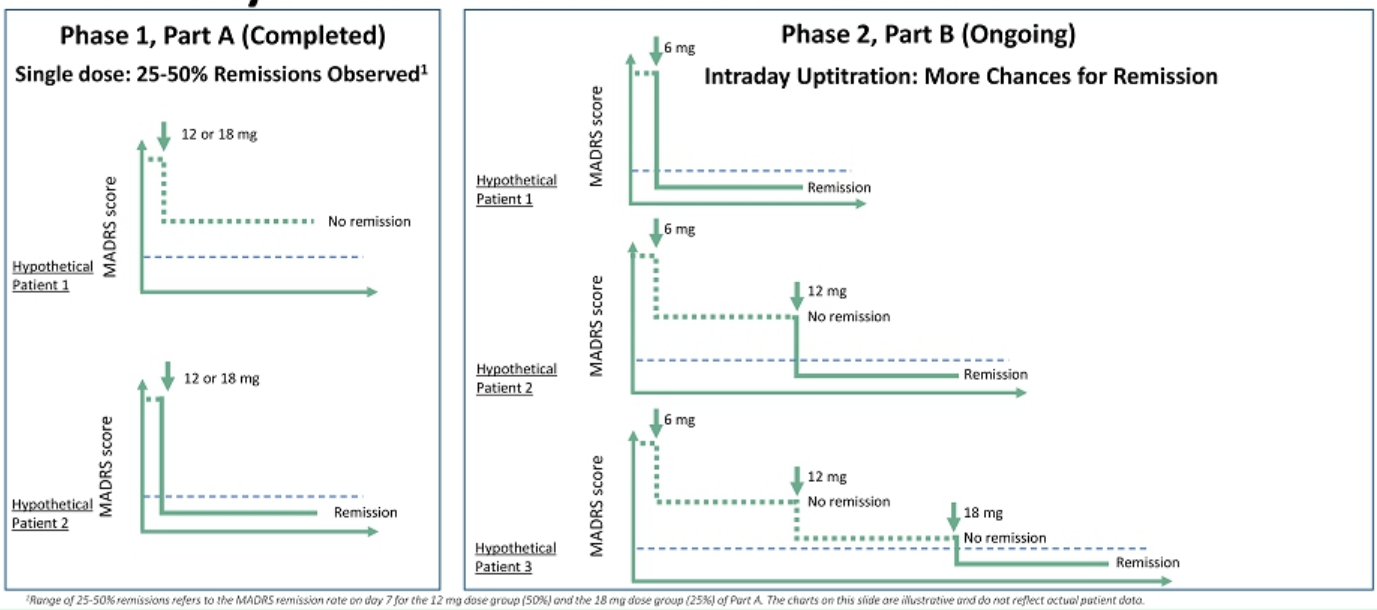
Phase 1, Part A – Ultra-Rapid and Durable Remissions After a Single Dose





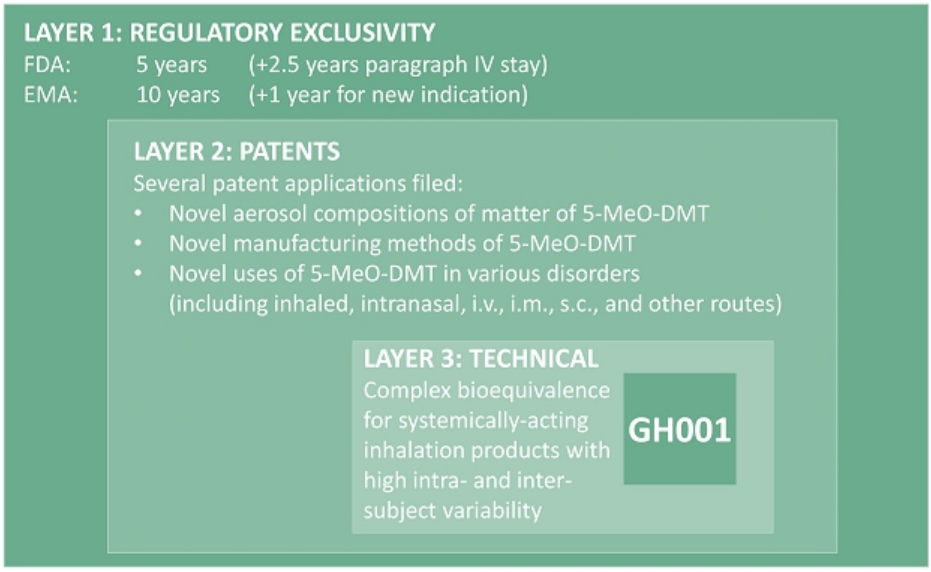
MADRS, Montgomery–Åsberg Depression Rating Scale; MADRS remission = MADRS of ≤10; MADRS response = Reduction of ≥50% from baseline in MADRS. [1]Data is for one patient in Part A with a MADRS remission on day 7 as reported in patent application PCT/EP2020/054803. In total three patients in Part A achieved a remission and one patient achieved a MADRS response on day 7. The other four patients also improved on day 7, but did not achieve a MADRS remission or response. All patients in Part A with a PE achieved a MADRS remission.

Phase 2, Part B – Intraday Uptitration to Potentially Further Increase Remission Rate



[1]Range of 25-50% remissions refers to the MADRS remission rate on day 7 for the 12 mg dose group (50%) and the 18 mg dose group (25%) of Part A. The charts on this slide are illustrative and do not reflect actual patient data.

Three-Layer Protection Strategy



Board of Directors & Management

Florian Schönharting
MSc
Chairman of the Board, Co-founder

Spike Loy
JD
Board Member

Michael Forer
BA, LLB
Board Member

Dermot Hanley
BSC, MBA
Board Member

Duncan Moore
MPhil, PhD
Board Member

Theis Terwey
PD Dr. med.
CEO, Co-founder

Julie Ryan
ACA, MAcc, BComm
Group Finance Director

Magnus Halle
BSc
Managing Director, Ireland, Co-founder

Core Development Team

Markus Breuer
Dipl. Chem. Dr. rer. nat.
Patent Attorney, Co-founder

Aaron Cameron
BSc, MSc, MBA
VP, Technical Development

Conor Burke
BSc, PhD, MBA
VP, Strategic Innovation

Aoife Soraghan
BSc, MBS
Director, Quality Management

Padraig O'Grady
BSc, PhD
Clinical Project Manager

Fiona Ryan
BPharm, MSc, PhD
Clinical Project Manager

Sarah Keady
BSc, PhD
Clinical Trial Manager

Avril Feeney
BSc, MSc
CMC Project Manager

Inês Amaro
MPharm, PhD
CMC Project Manager

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Head, Psychiatry Unit,
Hospital Clínic de Barcelona

Michael Bauer
Prof. Dr. rer. nat. Dr. med.
Chair, Department of Psychiatry and Psychotherapy,
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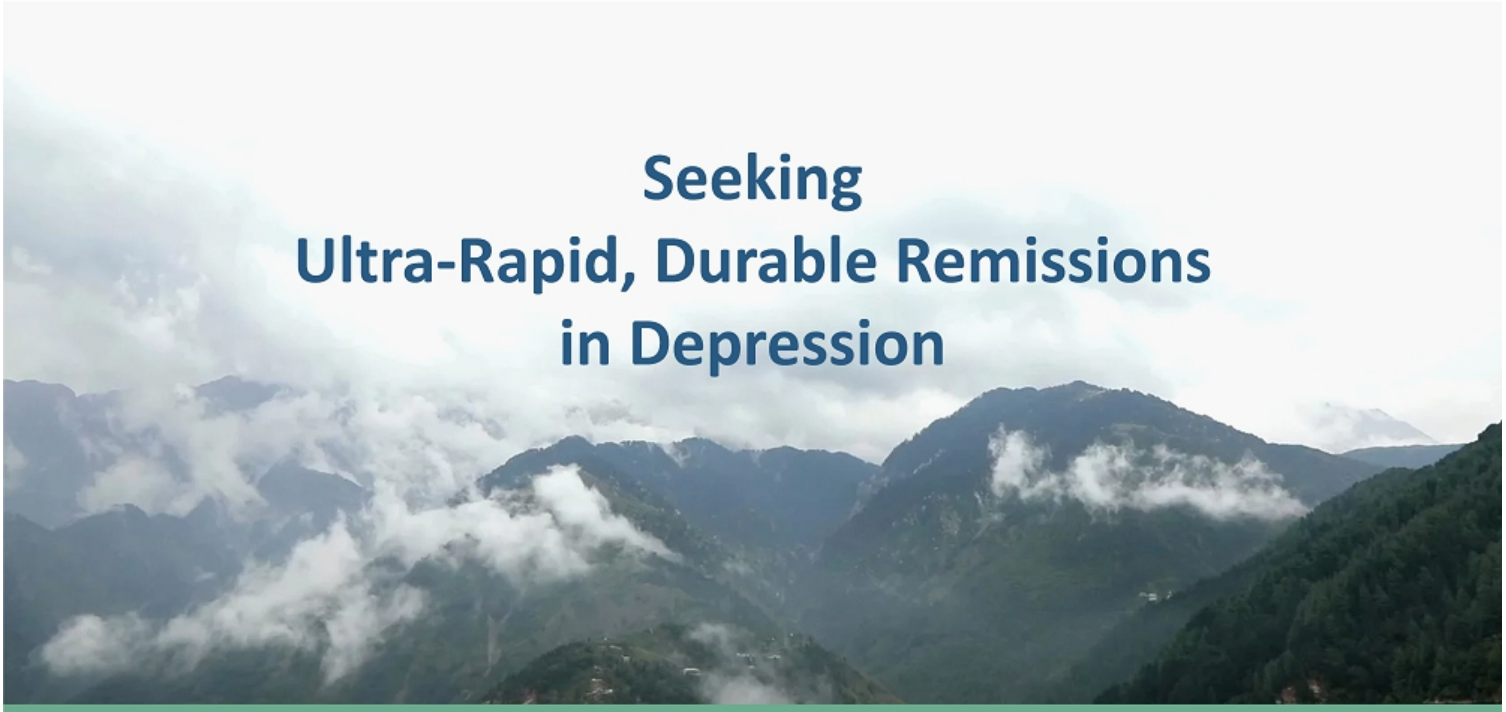
Prof. Dr. med.
Head, Center for Affective Neuroscience,
Charité, Berlin

Johannes Ramaekers
Prof. Dr.
Professor, Faculty of Psychology
and Neuroscience of Maastricht

Anticipated Milestones

- GH001
  - Expected completion of Part B of Phase 1/2 trial in TRD in 4Q 2021
  - Expected completion of Phase 1 clinical pharmacology trial in Healthy Volunteers in 4Q 2021
  - Finalize design of randomized, controlled Phase 2b trial in TRD
  - Initiation of proof-of-concept Phase 2a trials in two new indications
- GH002
  - Complete preclinical work and initiate Phase 1 trial in Healthy Volunteers



Seeking Ultra-Rapid, Durable Remissions in Depression