EMPATHY: A Ph2-3 Randomized, Placebo-Controlled Trial Evaluating Safety and Efficacy of Ensovibep in Ambulatory COVID-19 Patients

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DISCLAIMERS

MS, NS, VS, and PL and employees of Molecular Partners AG
RC, SR, CK and GH are employees of Novartis Pharma AG
JK is an employee of IACT Health and a principle investigator on the EMPATHY trial

Ensovibep – One DARPin® Molecule to Bind Them All

The COVID-19 pandemic has highlighted the need for not only effective vaccines but also effective antivirals

Ensovibep is the first in a new class of antivirals that utilise the modularity of DARPin® domains to concomitantly bind to the three RBD units of the SARS-CoV-2 spike protein trimer. Effectively stopping the spike protein interaction with the ACE-2 receptor and rendering the virus particle impotent.

Ensovibep has shown high potency against all variants of concern in pre-clinical studies[1], and functional cures in animal models[2]. Is safe and tolerable in phase 1 studies[3], and shows encouraging signs in phase 2a studies[4].

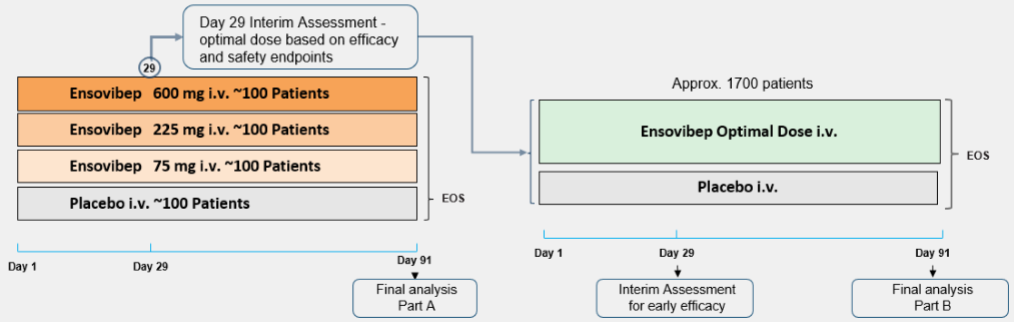
Ensovibep is now undergoing dose finding, safety and efficacy evaluation in ambulatory mild-to-moderate COVID-19 positive patients in the global phase 2b/3 study MP0420-CP302 called EMPATHY, #NCT04828161

Visualisation of ensovibep binding to the SARS-CoV-2 Spike protein trimer: credits XXX

Study Design

Part A:
Randomized 4 arm placebo-controlled trial
Proof of efficacy and selection of the optimal efficacious dose

Part B:
Randomized 2 arm placebo-controlled trial
Confirmation of efficacy and superiority over placebo



Inclusion /exclusion

- Participating:
  - USA
  - South Africa
  - Europe (HU, NL)
  - India
  - More countries will be invited for Part B
- Inclusion Criteria
  - Ambulatory patients, symptomatic for ≤ 7 Days
  - Accepts patients with renal or liver disease, malignancies, HIV
  - Accepts patients with prior vaccination
  - Positive **rapid antigen test** for SARS-CoV-2 **on the day of dosing**
  - In US: "low risk" patients only (ROW: all risk levels)
- Exclusion criteria
  - Prior antiviral therapy for COVID-19

Efficacy Objectives and Endpoints - All Compared with Placebo

Primary Endpoint | Secondary Endpoint | Exploratory Endpoint

Timepoint	Part A	Part B
By day 8	Viral load decline from BL	Viral load decline from BL
By day 29	Rate of hospitalizations** and/or emergency room visits related to COVID-19 or death from any cause	Rate of hospitalizations** and/or emergency room visits related to COVID-19 or death from any cause
	Time to reduction and resolution of COVID-19 symptoms	Time to reduction and resolution of COVID-19 symptoms
By day 91	Long-term persistence of COVID-19- related symptoms	Long-term persistence of COVID-19- related symptoms

Summary

We are exploring a tri-specific therapeutic protein that is expected to maintain superior resistance to virus mutations

- We anticipate that this study will offer relevant information beyond what was delivered by other studies in ambulatory COVID-19 patients by
  - Enriching the population with high viral load subjects (via positive rapid antigen test on the day of dosing)
  - Assessing not only short term virological and clinical efficacy, but also potential effects on the incidence of Long-COVID-19

Download the full poster as a PDF from our website: www.molecularpartners.com

1. Malvezzi et al., ISIRV-WHO Virtual 2021 abs #
2. BioRXive
3. No reference available…
4. No reference available…

* Selected secondary and exploratory objectives
**(≥ 24 h of acute care)