SOM3355 (Bevantolol) Candidate selected with SOM<sup>AI</sup> PRO as potent VMAT2 inhibitor to treat chorea in Huntington's Disease

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## SOM uses AI to efficiently repurpose drugs for orphan diseases



### Selection of bevantolol (SOM3355) as potent VMAT2 inhibitor to treat chorea in Huntington's Disease



- SOM <sup>AI</sup> PRO Artificial intelligence screening
  - to repurpose known drugs in the target indication Huntington's Disease
  - identification of bevantolol as a potential Vesicular Monoamine Transporter type 2 (VMAT2) inhibitor
  - bevantolol is an antihypertensive drug used for years with no psychiatric problems
- *in vitro* functional studies
  - SOM3355 inhibitory activity at VMAT2
- in vivo studies

**SOM<sup>AI</sup>PRO** 

Preclinical

Clinical

- brain penetration
- no induction of catalepsy in rats, like tetrabenazine (TBZ), even at very high doses
- Phase 2a Proof-of-concept study completed
  - SOM3355 reduces chorea in patients with Huntington's Disease (HD)
- Phase 2b SOMCT03
  - test 2 doses of SOM3355
  - 12-week double-blind, randomized, placebo-controlled trial

#### SOM3355 was first tested in a Phase 2a Proof of Concept study Double-blind, randomized, cross-over study testing SOM3355 compared to placebo $\mathcal{X}$ 32 male and female patients with **mild to moderate symptoms of chorea** were recruited in 4 sites **24-week treatment period** in which all patients received Placebo, 100 mg BID SOM3355 and 200 mg BID SOM3355 **Primary endpoint :** improvement of at least 2 points in the Total Maximal Chorea (TMC) score in any active drug period compared with the placebo period Secondary endpoints: Clinical Global Impression of Change (CGI-c), Patient Global Impression of Change (PGI-c), UHDRS functional and motor subscales, Columbia-Suicide Severity Rating Scale (C-SSRS), and Safety \*\*\*\* \*\*\*\* **Exploratory endpoints:** Prolactin levels in plasma, and SOM3355 plasma concentration

#### SOM3355 has shown effect on chorea in a first PoC study



✓ 57.1% of the patients had an improvement in the TMC ≥2 points compared to placebo in any active drug period

SOM3355 **200 mg BID induced a significant improvement of TMC score compared to placebo** (*p*=0.0224, Mixed Model)

CGI-c and PGI-c scales both showed improvement in >70% of patients in at least one period under SOM3355 versus 31% under Placebo

Confirmation of the expected effect on chorea symptoms - related to VMAT2 inhibition - measured by TMC score And confirmation of the good tolerability of SOM3355 in patients with Huntington's Disease



# SOMCT03 – Phase 2B Study

Phase IIb, randomized, double-blind, placebo-controlled study in parallel groups assessing the efficacy and safety of two doses of SOM3355 in patients suffering from Huntington's Disease with choreic movements

EudraCT number: 2021-003453-28

## Phase 2b - SOMCT03 - Study design



Phase IIb, randomised, double-blind, placebo-controlled, study in parallel groups assessing 2 doses of SOM3355 (200 mg BID and 300 mg BID) in patients suffering from HD with choreic movements

Visits V1 In 129 patients recruited by 22 sites in 7 European countries 300 mg BID = 600 mg/day300mg (France, Germany, Italy, Poland, Spain, Switzerland and the UK) BID N=43 200mg 200mg OD Placebo BID 200mg OD Study duration : **12 weeks** (+ 1-2 w for screening), and **7 visits** 200 mg BID = 400 mg/dayV=43 200mg 200mg 200mg Randomiz OD Placebo OD Treatment: SOM3355 (200 mg BID and 300 mg BID) or placebo in oral capsules taken twice daily N=43 Placebo BID Placebo OD Plcb Placebo OD BID Objectives: To assess the **efficacy to reduce chorea** in HD patients End of Maintenance Baseline dose and the safety of the 2 doses of SOM3355 compared to placebo 1-week 1-week 2-week Down- Placebo Up-titration 8 weeks at Maintenance dose Screening titration Washout PK sub-study in 24 patients to assess the PK profile and PK/PD wo W1 W3 W6 W10 W12 W-1 to -2 W2 W9 in 6 selected sites - PK sampling for 12 hours at V2 (end of titration) Day -7 to -14 Day 0 Day 7 Day 14 Day 21 Day 42 Day 63 Day 70 Dav 84

Total study duration 12 weeks (+1 or 2 weeks for screening)

eening) – 11 weeks under SOM3355 active drug



The study will be conducted in 7 European Countries :

France, Germany, Italy, Poland, Spain, Switzerland, and UK

3 sites in Germany :

Country	City	HOSPITAL
Germany	Münster	George Huntington Institut
	Berlin	Charité – Universitätsmedizin Berlin
	Ulm	Hospital of University of Ulm

- ✓ First Patient enrolled in August 2022
- $\checkmark\,$  All Sites initiated by mid October
- ✓ Recruitment expected until end of March 2023
- $\checkmark$  Study completion by end of June 2023





