Items Driving WOMAC Pain Subscore Changes Due to Lorecivivint, a Potential Disease-Modifying Treatment for Knee Osteoarthritis: A Post Hoc Analysis of Phase 2b Trial Data

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Disclosures

- **Sarah Kennedy, PhD**: Samumed employee and shareholder
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Background

- Knee osteoarthritis (OA) is a heterogenous disease state that is characterized by loss of function, structural deformities, and pain

- Studies have suggested that some dimensions of knee OA pain are associated with activities corresponding to structural findings (e.g., pain when walking on a flat surface and tibiofemoral joint OA),[1] whereas other dimensions are driven by more centralized pain mechanisms[2]

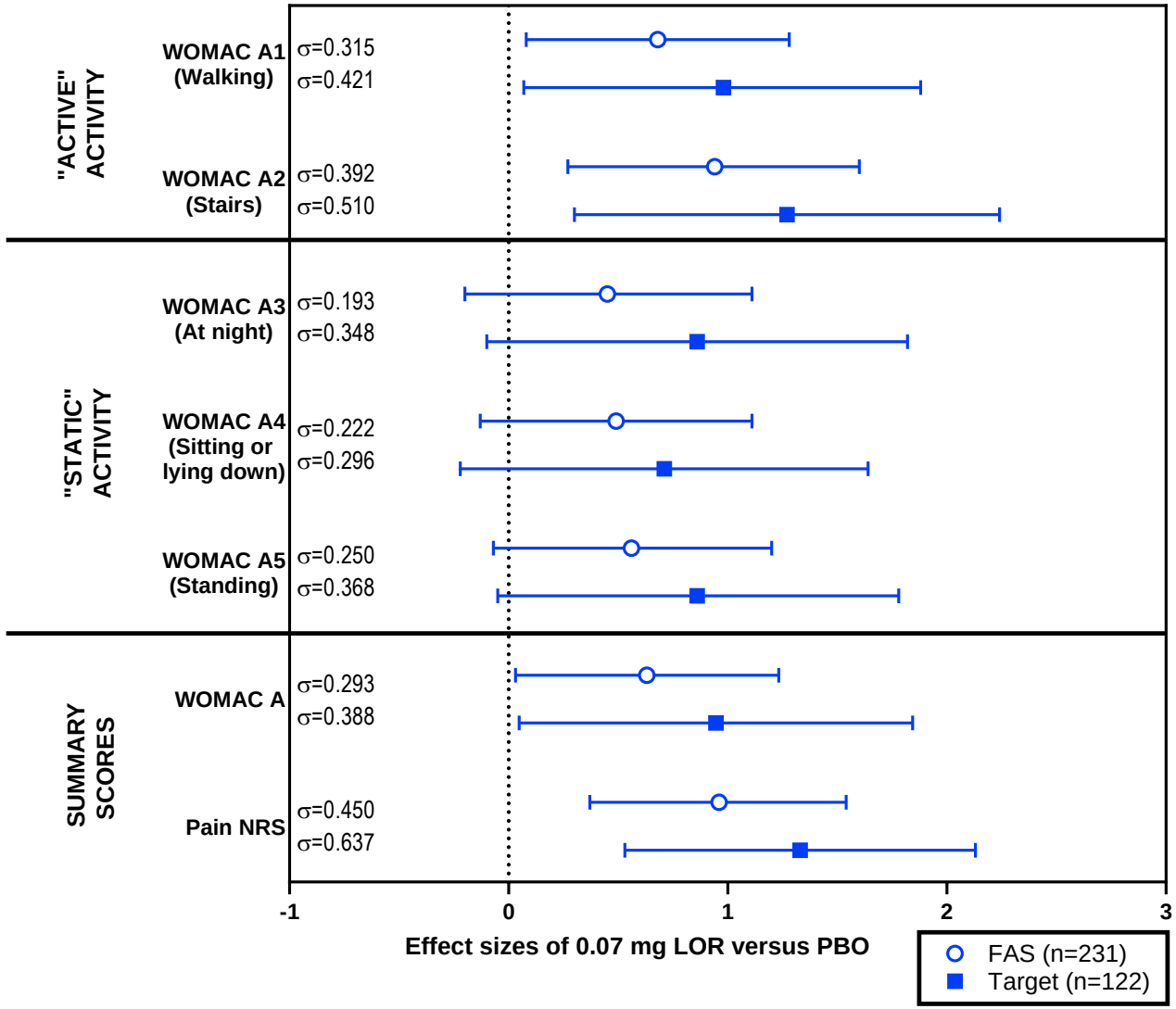
- We hypothesized that Pain Numeric Rating Scale (NRS) and WOMAC Pain subscore “active” and “static” items demonstrate differential effect sizes in response to different treatment mechanisms, reflecting effects on different drivers of knee OA pain

- Lorecivivint (LOR; SM04690), a small-molecule, intra-articular CLK/DYRK1A inhibitor that modulates the Wnt pathway, is in development as a potential disease-modifying treatment for knee OA[3–7]; as such, LOR may differentially affect structure- and pain-associated PROs

- A post hoc analysis of a Phase 2b trial of 0.07 mg LOR was performed to assess descriptive trends between the effect sizes of individual PROs in the Full Analysis Set (FAS) and a potential target population

1. Chan KK, et al. *PLOS ONE*. 2014.
2. Bihlet AR, et al. *BMC Musculoskelet Disord.* 2018.
3. Deshmukh V, et al. *Osteoarthritis and Cartilage*. 2017.
4. Deshmukh V, et al. *Osteoarthritis and Cartilage*. 2019.
5. Yazici Y, et al. *Osteoarthritis and Cartilage*. 2017.
6. Yazici Y, et al. *Arthritis Rheumatol.* 2018; 70 (suppl 10).
7. Yazici Y, et al. *World Congress on Osteoporosis, Osteoarthritis, and Musculoskeletal Diseases*. 2018.

Effect sizes of 0.07 mg LOR versus PBO for the FAS and target population at Week 12



σ: Difference in effect size between LOR and PBO; Point estimates of change with 95% CI; Target: mJSW [2–4] mm without widespread pain

Conclusions

- This post hoc analysis of knee OA subjects treated with 0.07 mg LOR suggested that
  - Pain NRS exhibited the greatest effect size of tested PROs for LOR compared with PBO
  - For all scores, effect sizes were enhanced in a target population of subjects with mJSW [2–4] mm without widespread (comorbid) pain compared with the FAS
  - Effect sizes observed with WOMAC Pain subscore “active” items may reflect associations between changes in the structural pathology of knee OA and assessments of PROs
  - Prospective comparisons of individual WOMAC Pain subscore items corresponding to mechanisms of potential treatments may be warranted in future studies

Thank you