

# Stanford

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## Malene Lindholm

Instructor, Medicine - Cardiovascular Medicine

### Bio

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#### ACADEMIC APPOINTMENTS

- Instructor, Medicine - Cardiovascular Medicine
- Member, Wu Tsai Human Performance Alliance

#### HONORS AND AWARDS

- Early Career Investigator Award, American Heart Association Genomic and Precision Medicine Council (11/15/2020)
- Young Investigator Award, Swedish foundation for promoting exercise (Sveriges Centralförening för Idrottens Främjande) (10/2019)
- Young Investigator Award, Research Group on the Biochemistry of Exercise (10/2018)

#### PROFESSIONAL EDUCATION

- M.Sc., Karolinska Institute , Biomedicine (2007)
- PhD, Karolinska Institute , Medicine (2015)

### Research & Scholarship

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#### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Interested in the genetics of human performance and the multi-omic response to exercise and training for optimizing human health.

#### CLINICAL TRIALS

- Gender Dysphoria Treatment in Sweden, Recruiting

### Publications

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#### PUBLICATIONS

- **Mono- and Biallelic Protein-Truncating Variants in Alpha-Actinin 2 Cause Cardiomyopathy Through Distinct Mechanisms.** *Circulation. Genomic and precision medicine*  
Lindholm, M. E., Jimenez-Morales, D., Zhu, H., Seo, K., Amar, D., Zhao, C., Raja, A., Madhvani, R., Abramowitz, S., Espenel, C., Sutton, S., Caleshu, C., Berry, et al  
2021; CIRCGEN121003419
- **Time trajectories in the transcriptomic response to exercise - a meta-analysis.** *Nature communications*  
Amar, D., Lindholm, M. E., Norrbom, J., Wheeler, M. T., Rivas, M. A., Ashley, E. A.  
2021; 12 (1): 3471
- **Molecular Transducers of Physical Activity Consortium (MoTrPAC): Mapping the Dynamic Responses to Exercise.** *Cell*

- Sanford, J. A., Nogiec, C. D., Lindholm, M. E., Adkins, J. N., Amar, D., Dasari, S., Drugan, J. K., Fernandez, F. M., Radom-Aizik, S., Schenk, S., Snyder, M. P., Tracy, R. P., Vanderboom, et al  
2020; 181 (7): 1464–74
- **Exercise Induces Different Molecular Responses in Trained and Untrained Human Muscle.** *Medicine and science in sports and exercise*  
Moberg, M., Lindholm, M. E., Reitzner, S. M., Ekblom, B., Sundberg, C., Psilander, N.  
2020
  - **An epigenetic clock for human skeletal muscle.** *Journal of cachexia, sarcopenia and muscle*  
Voisin, S., Harvey, N. R., Haupt, L. M., Griffiths, L. R., Ashton, K. J., Coffey, V. G., Doering, T. M., Thompson, J. M., Benedict, C., Cedernaes, J., Lindholm, M. E., Craig, J. M., Rowlands, et al  
2020
  - **Skeletal Muscle Transcriptomic Comparison between Long-Term Trained and Untrained Men and Women.** *Cell reports*  
Chapman, M. A., Arif, M. n., Emanuelsson, E. B., Reitzner, S. M., Lindholm, M. E., Mardinoglu, A. n., Sundberg, C. J.  
2020; 31 (12): 107808
  - **NOVEL ALPHA-ACTININ 2 MUTATIONS ARE ASSOCIATED WITH CARDIOMYOPATHY AND HYPERTROPHY IN HUMAN CARDIAC TISSUE AND IPSC-DERIVED CARDIOMYOCYTES**  
Lindholm, M., Zhu, H., Huang, Y., Ashley, E. A., Wheeler, M.  
ELSEVIER SCIENCE INC.2019: 1027
  - **Metabolic and functional changes in transgender individuals following cross-sex hormone treatment: Design and methods of the Gender Dysphoria Treatment in Sweden (GETS) study** *CONTEMPORARY CLINICAL TRIALS COMMUNICATIONS*  
Wiik, A., Andersson, D. P., Brismar, T. B., Chanpen, S., Dhejne, C., Ekstrom, T. J., Flanagan, J. N., Holmberg, M., Kere, J., Lilja, M., Lindholm, M. E., Lundberg, T. R., Maret, et al  
2018; 10: 148–53
  - **Medical relevance of protein-truncating variants across 337,205 individuals in the UK Biobank study** *NATURE COMMUNICATIONS*  
DeBoever, C., Tanigawa, Y., Lindholm, M. E., McInnes, G., Lavertu, A., Ingelsson, E., Chang, C., Ashley, E. A., Bustamante, C. D., Daly, M. J., Rivas, M. A.  
2018; 9: 1612
  - **The Impact of Endurance Training on Human Skeletal Muscle Memory, Global Isoform Expression and Novel Transcripts.** *PLoS genetics*  
Lindholm, M. E., Giacomello, S., Werne Solnestam, B., Fischer, H., Huss, M., Kjellqvist, S., Sundberg, C. J.  
2016; 12 (9)
  - **Skeletal muscle hypoxia-inducible factor-1 and exercise** *EXPERIMENTAL PHYSIOLOGY*  
Lindholm, M. E., Rundqvist, H.  
2016; 101 (1): 28-32
  - **The human cardiac and skeletal muscle proteomes defined by transcriptomics and antibody-based profiling** *BMC GENOMICS*  
Lindskog, C., Linne, J., Fagerberg, L., Hallstrom, B. M., Sundberg, C. J., Lindholm, M., Huss, M., Kampf, C., Choi, H., Liem, D. A., Ping, P., Varemo, L., Mardinoglu, et al  
2015; 16
  - **An integrative analysis reveals coordinated reprogramming of the epigenome and the transcriptome in human skeletal muscle after training** *EPIGENETICS*  
Lindholm, M. E., Marabita, F., Gomez-Cabrero, D., Rundqvist, H., Ekstrom, T. J., Tegner, J., Sundberg, C. J.  
2014; 9 (12): 1557-1569
  - **The human skeletal muscle transcriptome: sex differences, alternative splicing, and tissue homogeneity assessed with RNA sequencing** *FASEB JOURNAL*  
Lindholm, M. E., Huss, M., Solnestam, B. W., Kjellqvist, S., Lundeberg, J., Sundberg, C. J.  
2014; 28 (10): 4571-4581
  - **Negative regulation of HIF in skeletal muscle of elite endurance athletes: a tentative mechanism promoting oxidative metabolism** *AMERICAN JOURNAL OF PHYSIOLOGY-REGULATORY INTEGRATIVE AND COMPARATIVE PHYSIOLOGY*  
Lindholm, M. E., Fischer, H., Poellinger, L., Johnson, R. S., Gustafsson, T., Sundberg, C. J., Rundqvist, H.  
2014; 307 (3): R248-R255
  - **An evaluation of analysis pipelines for DNA methylation profiling using the Illumina HumanMethylation450 BeadChip platform** *EPIGENETICS*

Marabita, F., Almgren, M., Lindholm, M. E., Ruhmann, S., Fagerstrom-Billai, F., Jagodic, M., Sundberg, C. J., Ekstrom, T. J., Teschendorff, A. E., Tegner, J., Gomez-Cabrero, D.  
2013; 8 (3): 333-346