

THE CONSORTIUM FOR TOP-DOWN PROTEOMICS

BRINGING PROTEOFORMS TO LIFESM

What We Do

Our Mission is to education, and innovative research that will accelerate the comprehensive analysis of all human

proteoforms.

This progress will speed developments in the fields of diagnostics, therapeutics, environment, and energy through the detailed, accurate knowledge of proteoforms and their complexes.

Our Community

Over 1800 researchers from leading laboratories around the world

Proteoform Thursday seminar series attended by over 800 people from over 50 countries and territories

Members from most major biopharmaceutical

Energetic Early Career

Researchers committee

Generously supported by our vendors and suppliers

Biannual conference

and advancing the field

attracting thought-leaders

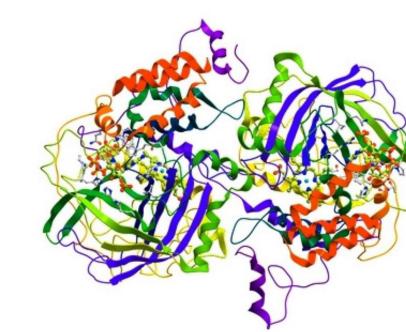


Objectives



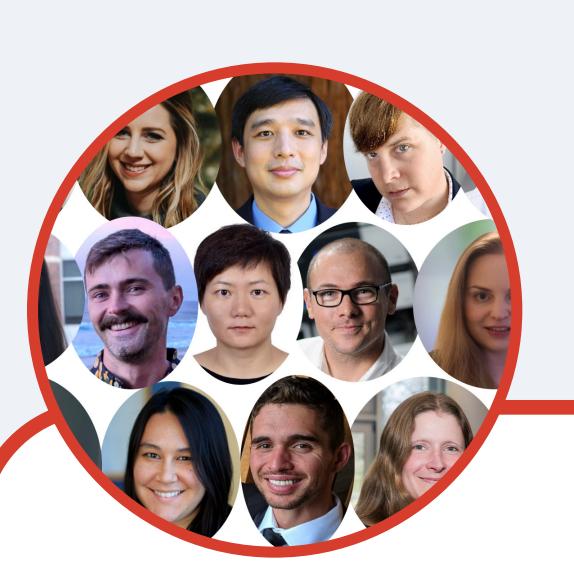
Building the Community:

Provide education and training Produce conferences and workshops Build partnerships and collaborations



Guiding the technology:

Develop protocols, standards, and methods Create new research initiatives Build the Proteoform Atlas Lead the Human Proteoform Project



Lend your voice to the direction of top-down proteomics Participate in collaborative projects and educational programs Be the first to know about new programs Be in touch with the leaders in the field Build relationships across the boundaries

Community Initiatives

Proteoform Thursdays

Monthly presentations on top-down proteomics and proteoforms

Featuring leading early career and established researchers

Top-Down Proteomics Short Course

Available at ASMS

Founded the Top-Down Proteomics Interest Group at ASMS

Early Career Researcher (ECR) Committee

Connecting researchers at different career stages over the world.

International Symposia on **Top-Down Proteomics**

Join the Community

CTDP.org

@proteoforms.bsky.social

@proteoforms

https://www.linkedin.com/company/consortium-for-top-down-proteomics/

Top-down standard methods

Up to date bibliography of >600 publications

Guide for standard proteoform notations

Database of proteoforms

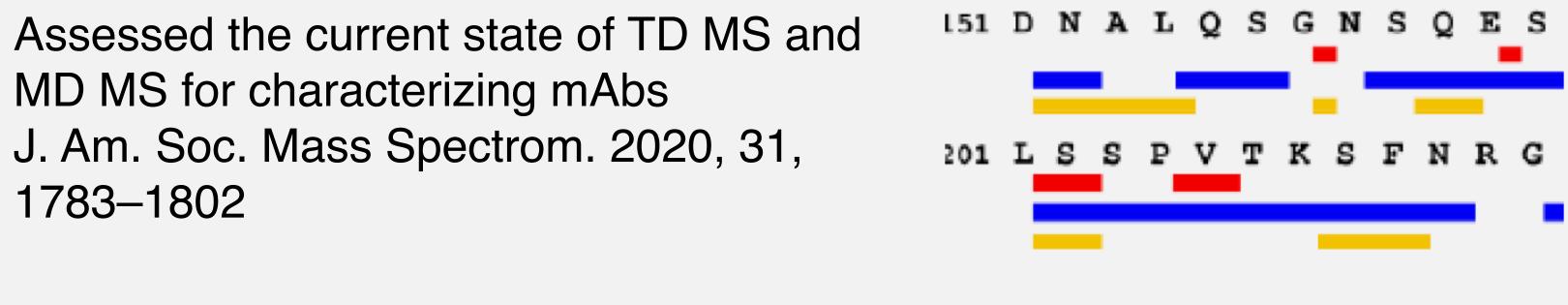
Community Resources at CTDP.org

20 publicly available software tools

Proteoform

Interlaboratory Study for Characterizing Monoclonal 51 A S F L Y S G V P S R F Antibodies by Top-Down and Middle-Down Mass LOIGTKVEIKRTVAA

MD MS for characterizing mAbs J. Am. Soc. Mass Spectrom. 2020, 31,

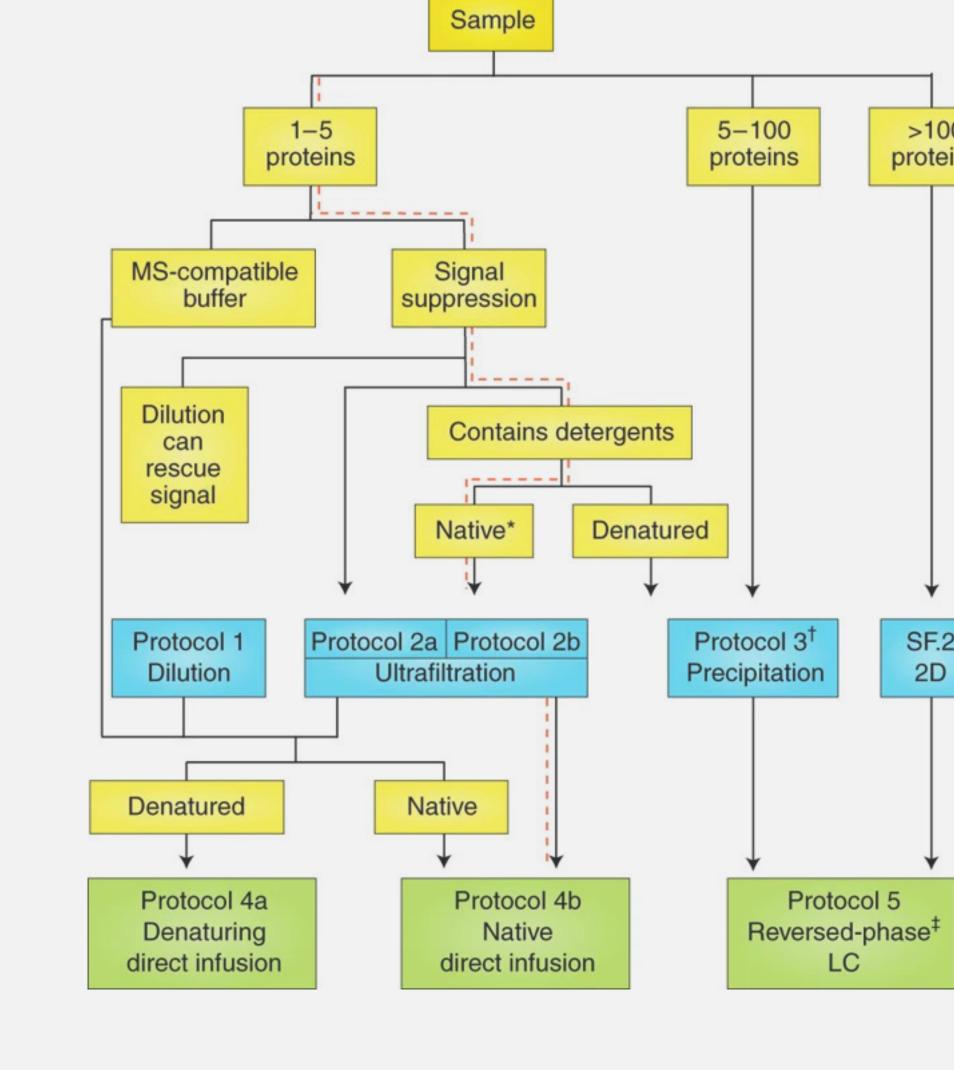


Consortium Research Initiatives

Best practices and benchmarks for intact protein analysis for top-down mass spectrometry

Spectrometry

A decision tree that guides researchers to robust protocols and benchmarks for mass analysis of intact proteins - Over 400 **Citations** Nature Methods, 2019, 16, 587-594



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ProForma: A Standard Proteoform Notation

A standardized notation for writing the sequence of fully characterized proteoforms

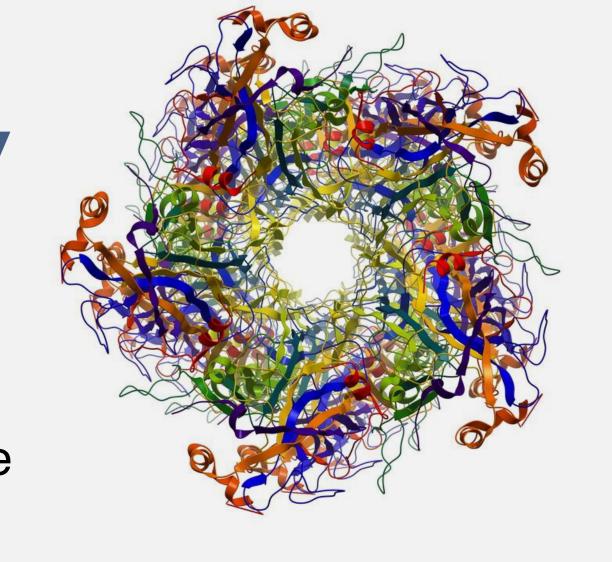
Version 2 developed in collaboration with HUPO PSI Group J. Proteome Res. 2018, 17, 3, 1321-1325

Top-down mass spectrometry of native proteoforms and their complexes: a community

Provide guidance for top-down methods using native ionization

Elucidate how higher-order structure affects the fragmentation of proteins

Nature Methods, 21, 2388–2396 (2024)



Intact Proteoform Analysis by Capillary Electrophoresis-Mass Spectrometry. Are We **There Yet?**

Engaged laboratories worldwide to assess the state of the art in CE-MS and CE-MS/MS

Provide guidelines on the best practices for successful CE-MS and CE-MS/MS analysis of intact proteins Paper has been submitted



The Human Proteoform Project

SCIENCE ADVANCES | REVIEW

BIOCHEMISTRY

The Human Proteoform Project: Defining the human proteome

Lloyd M. Smith¹, Jeffrey N. Agar², Julia Chamot-Rooke³, Paul O. Danis⁴, Ying Ge⁵, Joseph A. Loo⁶, Ljiljana Paša-Tolić⁷, Yury O. Tsybin⁸, Neil L. Kelleher⁹*, The Consortium for Top-Down Proteomics

Ambitious initiative to define the chemical diversity of the gene products, providing the bridge from genotype to phenotype

Drive the creation and development of new technologies, methodologies, and applications (similar to Human Genome

Paper has been downloaded over 31,000 times

Over 60 co-signatories endorse the article and support the call for federal funding of the Human Proteoform Project.

The Vision for the Next Decade:

- Readily characterize proteoforms in any biological system at the single cell level.
- Have definitive Human Proteoform Atlas available to all.
- and biology.

Be fully integrated with other domains of omics

- Proteoform-level information required in the discovery, development and quality assurance of protein-based drugs.
- Proteoforms widely utilized in clinical diagnostics

Thank You to the Current Consortium Sponsors



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