

Thermo Scientific Q Exactive Plus  
Orbitrap LC-MS/MS System



# Quanfirmation Plus

Characterize • Quantify • Confirm

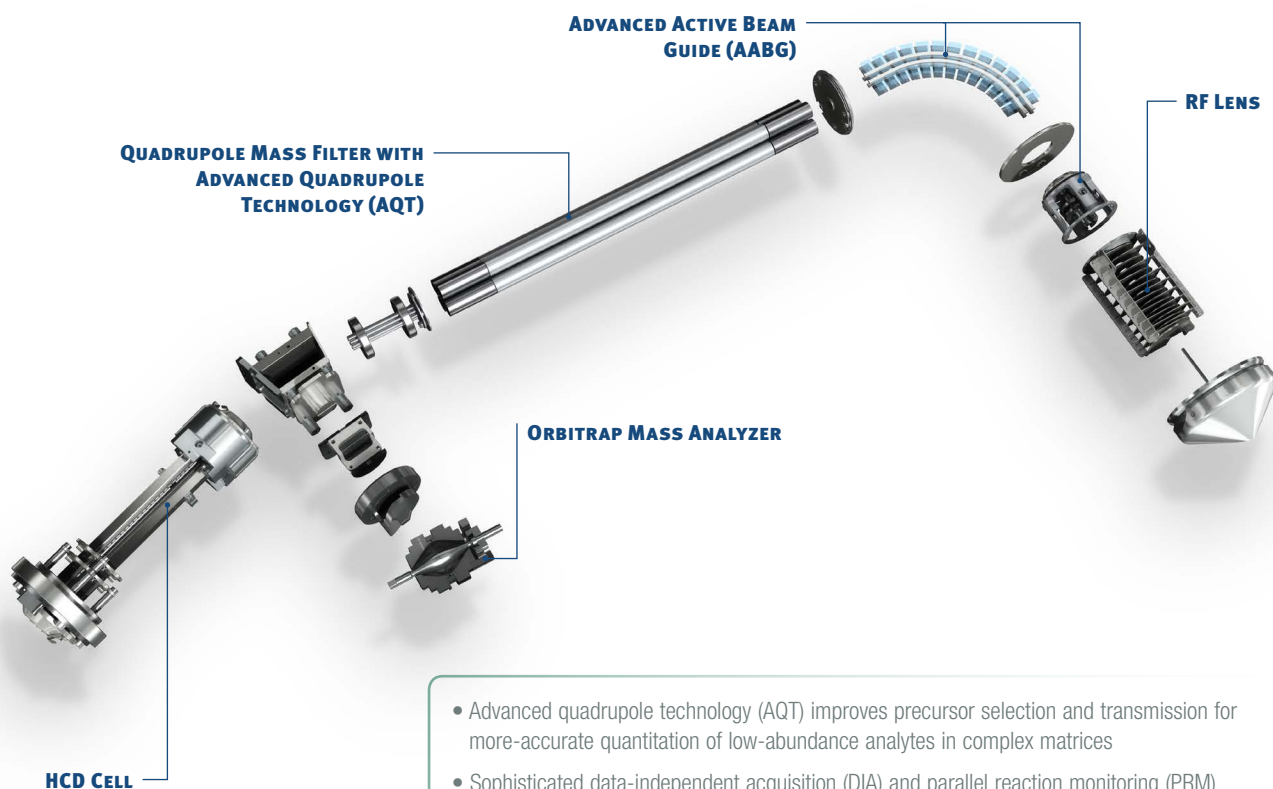
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# Quanfirmation Plus

\,kwän-fər-'mä-shan pləs\

**1** : the ability to confidently and routinely characterize, quantify, and confirm using a single mass spectrometer:  
*syn* **Q Exactive Plus mass spectrometer**

The Thermo Scientific™ Q Exactive™ hybrid quadrupole-Orbitrap mass spectrometer introduced the revolutionary concept of Quanfirmation™. The Thermo Scientific Q Exactive Plus takes Quanfirmation to the next level with increased performance and new options that enhance applications from confident DMPK qual/quant screening studies to characterization of intact monoclonal antibodies.



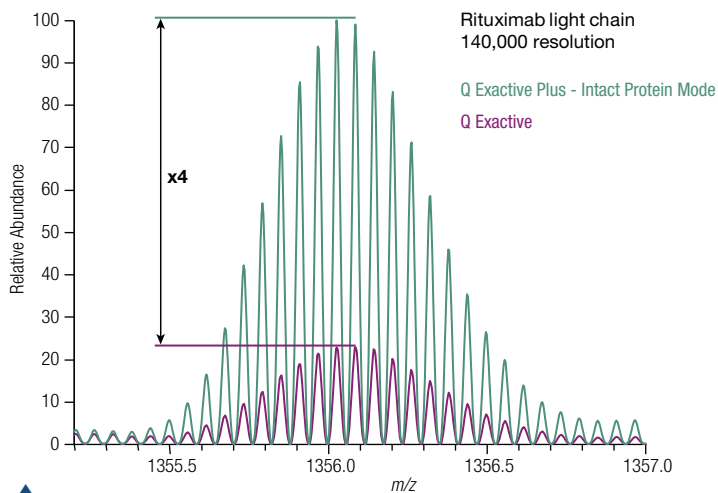
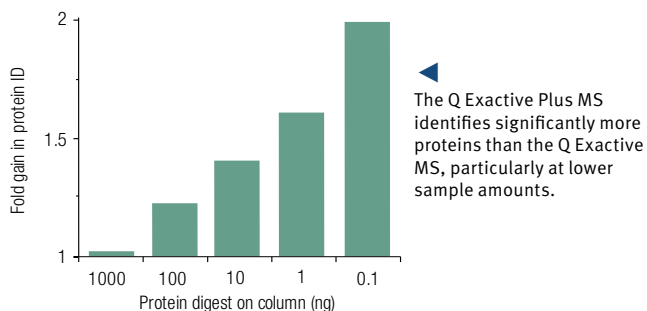
- Advanced quadrupole technology (AQT) improves precursor selection and transmission for more-accurate quantitation of low-abundance analytes in complex matrices
- Sophisticated data-independent acquisition (DIA) and parallel reaction monitoring (PRM) deliver reproducible quantitation with complete qualitative confidence
- An advanced active beam guide (AABG) reduces noise and extends maintenance intervals
- Optional intact protein mode provides superior trapping of large molecules for improved analysis of intact proteins and protein complexes
- Optional enhanced resolution ensures maximum ID confidence in top-down proteomics and lipidomics

# Analyze single proteins and complex protein mixtures

The Q Exactive Plus mass spectrometer facilitates a wide range of protein analysis applications, from antibody characterization to cell- or tissue-based proteomics to targeted or DIA-based protein quantitation.

## Confidently identify proteins

Protein identification, is a fundamental research task. The Q Exactive Plus mass spectrometer delivers increased sensitivity and precision for protein identification. The advanced active beam guide and advanced quadrupole technology improve identification of low-abundance proteins in complex matrices while providing the utmost reliability and confidence.

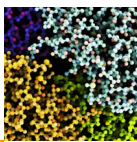
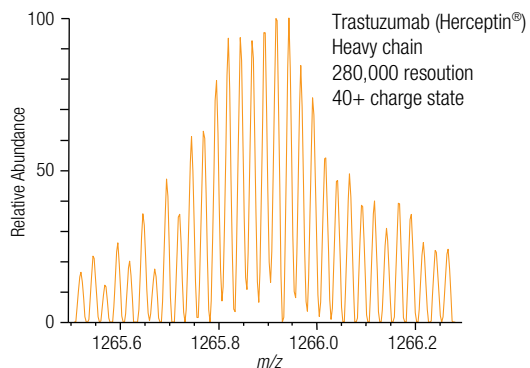


Intact protein mode on the Q Exactive Plus system significantly improves analysis of native-like proteins.

## Characterize intact proteins

Therapeutic proteins and monoclonal antibodies (mAb) have transformed biotechnology and the pharmaceutical industry. The ability to quickly and accurately assess sequence integrity, glycan heterogeneity, and purity at each step of the development process is essential to the development of biotherapeutics. With the new intact protein and enhanced resolution modes, the Q Exactive Plus system can confidently analyze intact proteins and isotopically resolve subunits as large as 50 kDa with outstanding sensitivity. The Q Exactive Plus system is also the first choice for fast, sensitive bottom-up analyses.

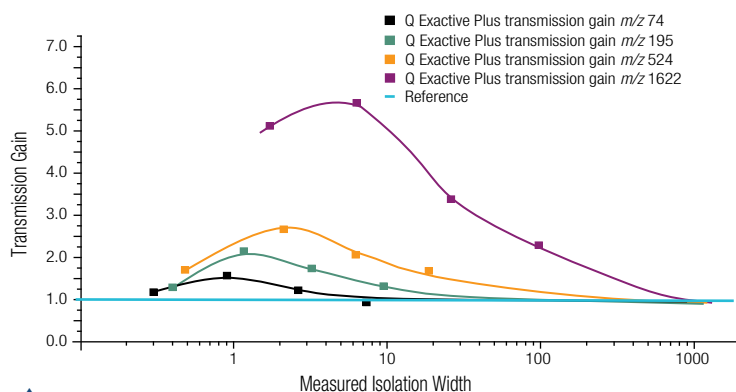
Combining enhanced resolution mode with intact protein mode enables isotopic resolution and confident characterization of proteins such as this heavy chain monoclonal antibody.



# Quantify with the highest confidence

## Targeted quantitation with added confidence

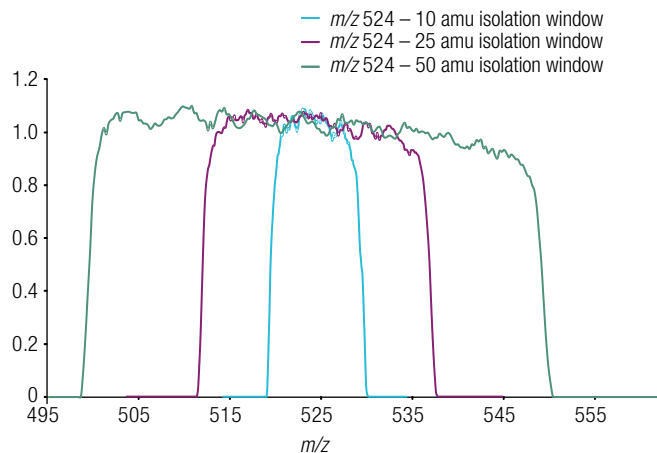
Targeted quantitation is an essential tool for proteomics, pharmaceutical development, and many other fields. The Q Exactive Plus instrument delivers the sensitivity expected from targeted quantitation with the extra measure of analytical confidence provided by high-resolution accurate-mass data. Parallel reaction monitoring (PRM) and high-resolution accurate-mass selected ion monitoring (HR/AM-SIM) can both be employed on the Q Exactive Plus system to quantify peptides and small molecules with superior sensitivity and unmatched selectivity.



Advanced quadrupole technology (AQT) enhances ion transmission over a wide range of masses and isolation widths, increasing quantitative sensitivity.

## Optimized data-independent acquisition

Data-independent acquisition (DIA) provides a high-throughput method for comprehensive protein quantification with qualitative confirmation. Unlike targeted methods, DIA method setup is simple and universal; detailed sample knowledge prior to acquisition is not required. Optimized DIA methods on the Q Exactive Plus system and data processing in Thermo Scientific™ Pinpoint™ software increase coverage and reproducibility.



Consistent precursor isolation across the isolation window ensures accurate quantitation.

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