

# Intrada Amino Acid

The world's first specialty HPLC column for the analysis of amino acids without derivatization using LC-MS

**Abstract:**

Amino acids and biogenic amines are challenging analytes for HPLC analysis because they are poorly retained on C18 columns, and they do not appreciably absorb in the UV/VIS spectrum. The common current solution involves lengthy pre- or post-column derivatization steps to improve retention and increase detector visibility, but this significantly increases cost and analysis time.

Here we propose a new column technology called Intrada Amino Acid, which does not require any derivatization of any type. This is a mixed mode column (normal phase + ion exchange) specifically designed to be used with MS detection, utilizing MS-compatible mobile phases for the separation of amino acids and amino acid-like compounds. This column complements the limitations of an MS detector in that it provides excellent resolution of isomers and isobaric compounds such as leucine/isoleucine, threonine isomers, or GABA isomers.

The high chromatographic resolution of amino acids on this column, coupled with m/z information provided by the MS, has proven to be a true revolution in the analysis of amino acids.

**Conclusions:**

- Intrada Amino Acid is the world's first column that allows fast separation of amino acids, including isomers and isobars, without the need for derivatization.
- Intrada Amino Acid utilizes MS-friendly mobile phase, and is recommended for use with MS detection, to achieve the best separation.
- Intrada Amino Acid, with simple sample prep, delivers excellent performance over a wide range of analyte concentrations, with low LODs; all within a ~10-minute runtime.
- With no derivatization needed, sample time and reagent costs are greatly reduced, improving cost per sample, and providing more precise quantification of amino acids.

**Dimensions available:**

Intrada Amino Acid columns are available in dimensions from 75 μm to 3 mm ID, with lengths of 10 to 250 mm, depending on ID.

**Recommended separation conditions**

Imtakt USA recommends utilizing Intrada Amino Acid within pH of 1.5 to 8, at temperatures between 15 to 65 °C, and peak pressure of approximately 50 MPa (500 bar, 7500 psi).

