

# ANALYSIS OF FIVE AMINO ACIDS PROFILE AND DIET INTERVENTION FOR BALANCING PROTEIN METABOLISM AMONG PROFESSIONAL ATHLETES

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## Background

- Professional sports have a major impact onto athletes protein metabolism.
- An essential role for sports performance is played by balanced diets that help meet energy requirements of athletes.
- The amino acid panel is important for exploration of protein metabolism.

## Objective

- This study explores protein metabolism profile among professional athletes through the measurement of amino acids levels of Isoleucine, Leucine, Valine, Arginine, and Tryptophan.

## Materials and Methods

- ✓ Data was collected using a:
  - ❑ **Quantum Bioresonance** equipment for measurement of amino acids levels,
  - ❑ **A Food Frequency Questionnaire** adapted for exploration of the nutritional status of athletes.
- ✓ 99 people took part in the study
  - ❑ 24 athletes from **University of Medicine and Pharmacy Targu Mures** aged 18-28
  - ❑ 75 athletes from **Transylvania University of Brasov** between 19-46 years old.
- ✓ None of them were using protein supplements.

## Results

- ❖ None of the subjects monitored has deficiencies in amino acids levels measured.
- ❖ In our sample:
  - 36 athletes (36.36%) had a slightly high level of **Isoleucine**
  - 46 (46.46%) a slightly high level of **Leucine**
  - 34 (34.34%) a lower level of **Tryptophan** 30 athletes (30.30%) presented a moderately high level of **Tryptophan** and 2 (2.02%) a high level of **Tryptophan**
  - also 45 (45.45%) a mild surplus of **Valine**
  - and 63 (63.64%) a mild surplus of **Arginine**
  - Based on our questionnaire data, 64.64% of athletes were identified as having a higher animal protein intake than recommended, especially young males athletes

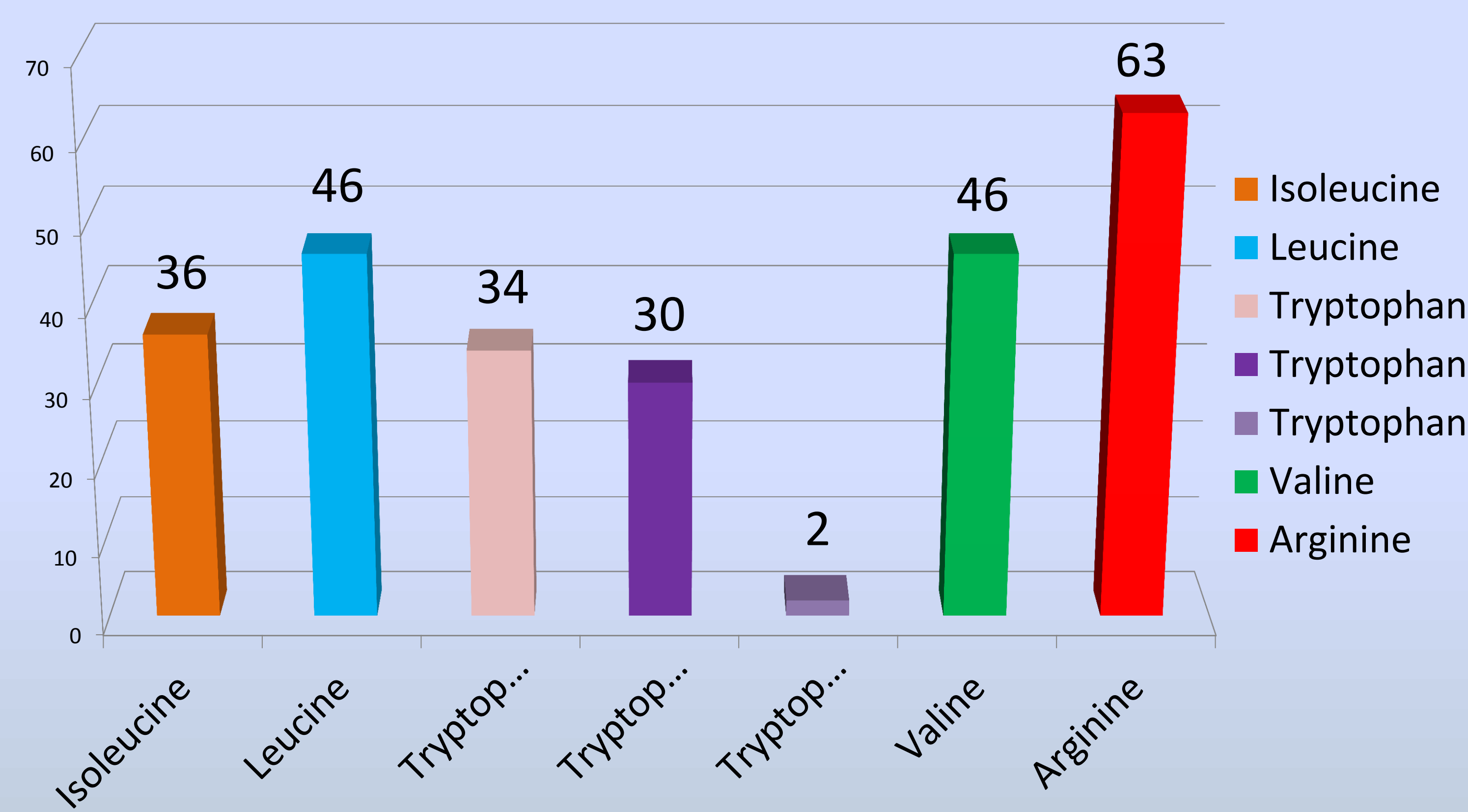


Fig.1. Number of subjects with high levels of amino acids

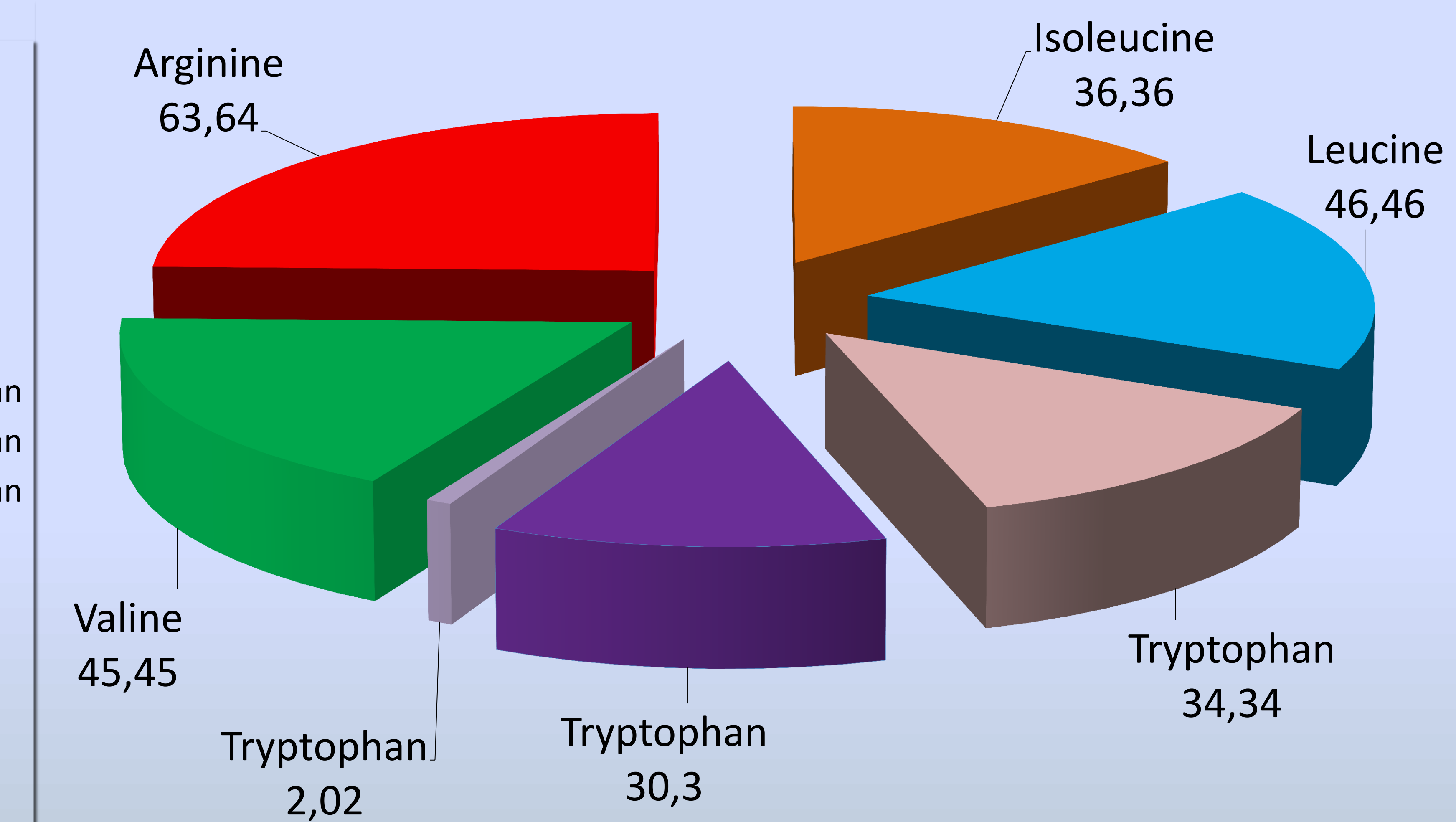


Fig.2. Percentage of subjects with high levels of amino acids

## Conclusion

The variations in athletes's protein metabolism, indicated by the discrepancies in the amino acids panel, point out the need to implement a well-organized and balanced diet for professional athletes that would help improve their performance and the weight during and after sport life.