

Quality Assessment of Aloe Vera



I Background

Aloe Vera is a widely used ingredient in wellness products, cosmetics, and food supplements. This natural product shows natural variations in its composition and easily undergoes biological and chemical degradation. Due to its positive image and relatively high prices for raw material, Aloe Vera is often subject to adulteration. A reliable and comprehensive quality assessment is therefore essential.

Reference compound of Aloe Vera: Alooverose

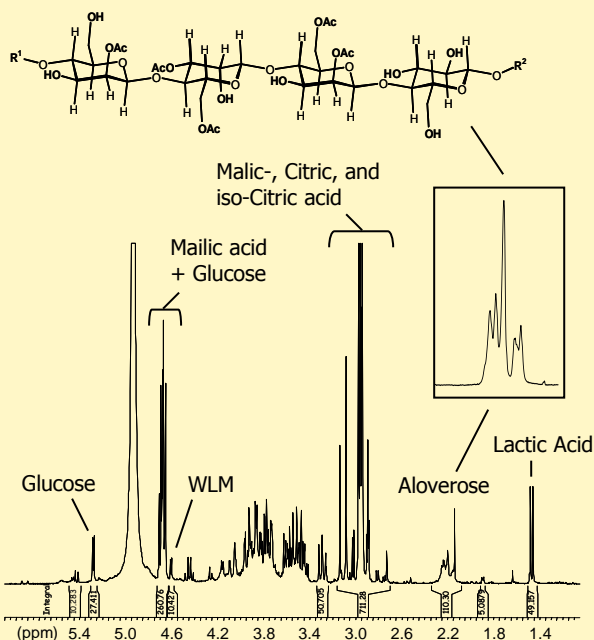


Fig.1: $^1\text{H-NMR}$ spectrum of Aloe Vera juice showing signals of characteristic compounds

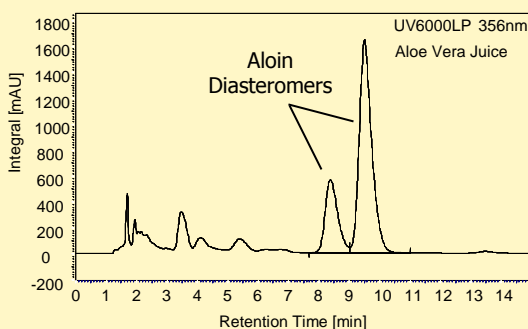


Fig.2: HPLC chromatogram of Aloe Vera juice for quantification of aloin

I Quality Parameter of Aloe Vera

- **Alooverose** (acetylated polymannose) is the reference compound in Aloe Vera and indicates freshness and nativeness of the material.
- **Glucose and malic acid** are further original components of Aloe Vera.
- **Lactic acid and succinic acid** indicate bacterial degradation.
- **Added preservatives**, like citric acid, benzoic acid, or sorbic acid.
- **Maltodextrin** as carrier material in spray-dried powder products.
- **WHL** (whole leaf marker) indicates the use of outer layers of Aloe Vera leaves.
- **Absence of Aloin**

Parallel analysis of all quality parameters by NMR Spectroscopy!

I Our Service for You!



Quality Assessment of Aloe Vera by only one $^1\text{H-NMR}$ analysis



Results available within **48 hours** after sample receipt!



Additional **Quantification of Aloin** or minerals in separate analysis