

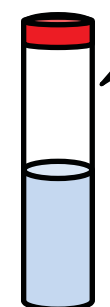
# Absolute Quantification by Quantitative NMR (qNMR)

## Features

- Absolute quantification is not affected by impurities
- Capable of purity determination even for a compound without a reference material
- Highly reliable analysis method adopted as a standard method

### Analysis Procedure

Substance to be measured  
+  
Internal standard for qNMR



Sample



NMR Machine

### Application of Standard Method

[Reagents such as crude drugs for component quantitative determination in the Japanese pharmacopeia]

- 16<sup>th</sup> revision Japanese pharmacopeia second supplement (2014)  
"Geniposide", "Paeonol", "Magnolol", "Magnoflorine iodide"

[Japanese Standards of Food Additives]

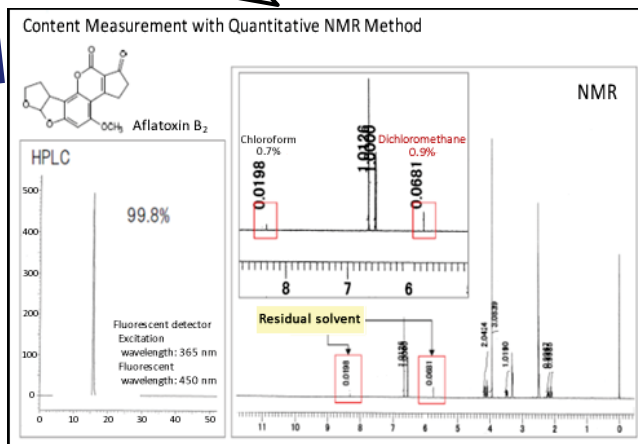
- Official Gazette. Extra 49<sup>th</sup>. March 12, 2013 "Azoxystrobin"
- Official Gazette. Extra 171<sup>st</sup>. August 6, 2013 "Pyrimethanil"

A calibration curve for quantification is not necessary!  
Measurement takes about 20 minutes to complete.

A residual solvent easily missed in chromatography  
can be confirmed in qNMR!

### Why is Absolute Quantification Possible?

The mole ratio between molecules can be confirmed by directly comparing the atomic nuclei constituting the molecules.  
→ This principle makes quantification possible.  
Furthermore, SI traceable quantitative analysis is possible using the internal standard with SI traceability.



Measurement Result

### Product List of Internal Standard for qNMR

Wako Cat. No.	Product Name	Grade	Pkg. Size
024-17031	1,4-BTMSB-d4 Reference Material	TraceSure	50 mg
044-31671	DSS-d6 Reference Material	TraceSure	50 mg
048-33271	Dimethyl Sulfone Reference Material	TraceSure	100 mg
135-17951	Maleic Acid Reference Material	TraceSure	100 mg
093-06731	4 Internal Standard Set for Quantitative NMR	for qNMR	1 set

Listed products are intended for laboratory research use only, and not to be used for drug, food or human use.  
Please visit our [online catalog](http://www.e-reagent.com/) to search for other products from Wako: <http://www.e-reagent.com/>  
This leaflet may contain products that cannot be exported to your country due to regulations.