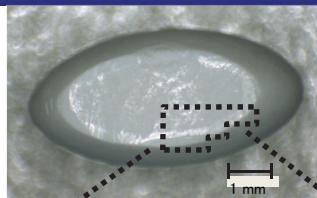


# Imaging with Raman spectroscopy –Distribution of ingredients in medicinal tablets–

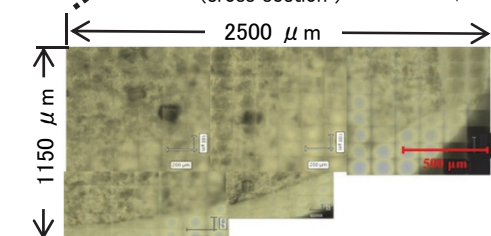
Imaging with Raman spectroscopy is sensitive and is the method which can estimate the ingredient distribution by high spatial resolution. Therefore, it is a powerful technique possible about detecting the distribution of medicinal properties, its crystal polymorph and additive.

## Ingredient distribution evaluation



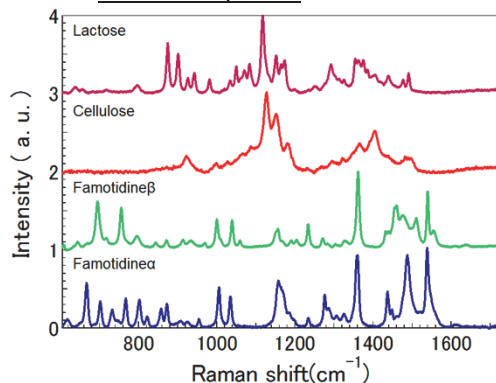
Optical micrograph  
(cross section)

Compared standard spectra with the Raman spectra measured actually and got distribution of each ingredient.



Determining area

### Standard spectra



- The main ingredient (Famotidine  $\beta$ , Cellulose and Lactose) dispersed uniformly mostly.
- Famotidine  $\alpha$  which has no efficacy of a medicine, a little, eccentrically-located was observed.

### Particle size distribution of a medicine ingredient

Particle size distribution of each ingredient was calculated from brightness of a mapping image.

- A crystal of less than 20  $\mu\text{m}$  of particle size were dominant Famotidine  $\beta$  and Lactose.

