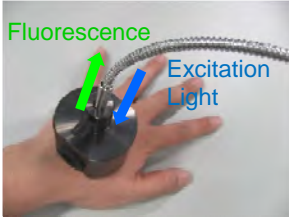
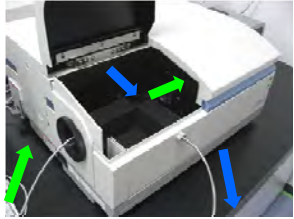


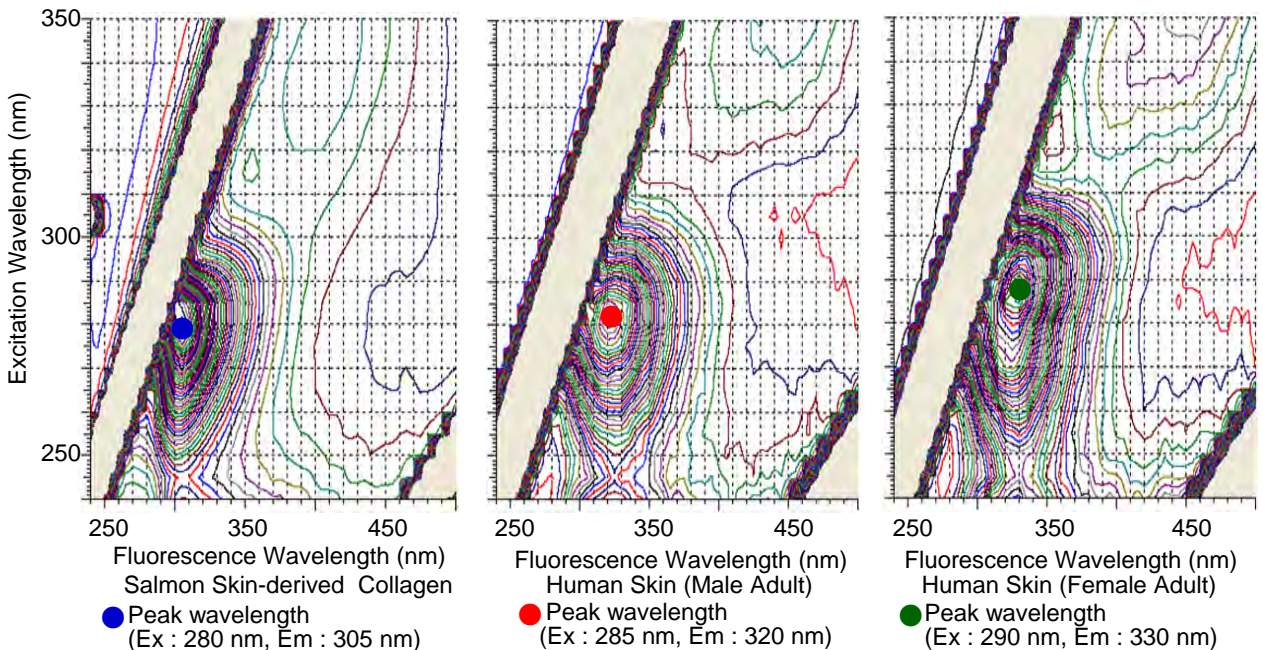
Direct Fluorescence Analysis of The Skin Using Optical Fiber Accessory

INTRODUCTION

Collagen, which is also drawing attention as a health food, is found in the dermis of the skin and its fluorescence emission has been reported. The fluorescence spectrum and intensity change depending on the type and cross-linking condition of collagen and thus, the study is being focused on the application of the fluorescence measurement to understand skin conditions.

By using the optical fiber accessory (custom made) with the F-7000 fluorophotometer, a sample of a size that cannot be placed in the sample chamber can be directly analyzed. In addition, the ultrahigh-speed scan speed, one feature of the F-7000 fluorophotometer allows a rapid measurement of the 3D fluorescence spectrum. This time, an example in which 3D fluorescence spectra of salmon skin-derived collagen and human skin were measured by using the optical fiber accessory is introduced here.

SAMPLE	ACCESSORY
Sample: Salmon skin-derived collagen Human skin	Optical Fiber Accessory (Custom Made ^{*1})
ANALYSIS CONDITIONS	 
Instrument : F-7000 Excitation wavelength range : 240 - 350 nm Fluorescence wavelength range : 240 - 500 nm Data interval : 5 nm Scan speed : 60000 nm/min Detector : R3788 Photomultiplier voltage: 400 V	
This accessory allows the non-destructive direct analysis of a sample which cannot be placed in the sample chamber. ^{*1} This accessory is a custom made product. Please contact our sales representatives separately for detailed information including the specification.	



The 3D fluorescence spectra indicated that the both excitation and fluorescence peaks of the human skin occur at longer wavelengths compared with the salmon skin-derived collagen. In addition, it was found that the skin of a female adult showed the peak at a longer wavelength compared with the skin of a male adult. It has been reported that the collagen cross-linking increases with age, resulting in the change in the fluorescence properties. The 3D spectrum measurement will support studies such as the one described above.

KEY WORDS

Bio/Medical Science/Food/Pharmaceutical,
 Other Bio/Medical Science/Food /Pharmaceutical Related,
 Salmon skin-derived Collagen, Skin, Optical Fiber,
 3D Fluorescence Spectrum, 3D, FL, F-7000

Fluorophotometer (FL) FL

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