中文題目: Raman 光譜應用活體幹細胞分化之即時分析

英文題目:Aanyalysis of Raman Spectaroscopy as a New Technique on Stem cell monitoring in Vivo

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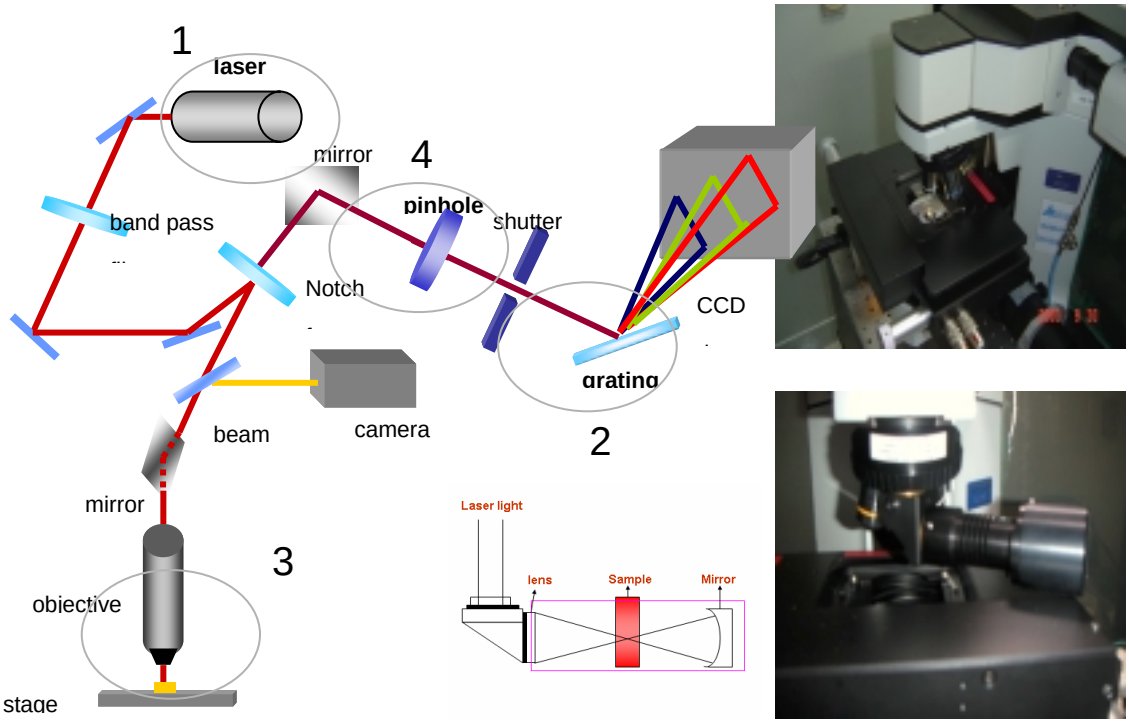
前言：

In stiu and in real-time spectroscopic study of Hydroxyapatite (HA) in differentiating human mesenchymal stem cells to osteoblast

材料及方法：

Experimental instrument – Raman



Yobin Ivon HR800 Confocal Raman Microscope

The excitation wavelength is supplied by an internal HeNe 20mW laser (wavelength 632.817 nm) mounted on the back of the instrument and an external Ar laser (wavelength 514.532 nm) with variable optical power (~2-63mW) depending on the plasma tube current (~4-11Amps), also mounted on the back of the instrument

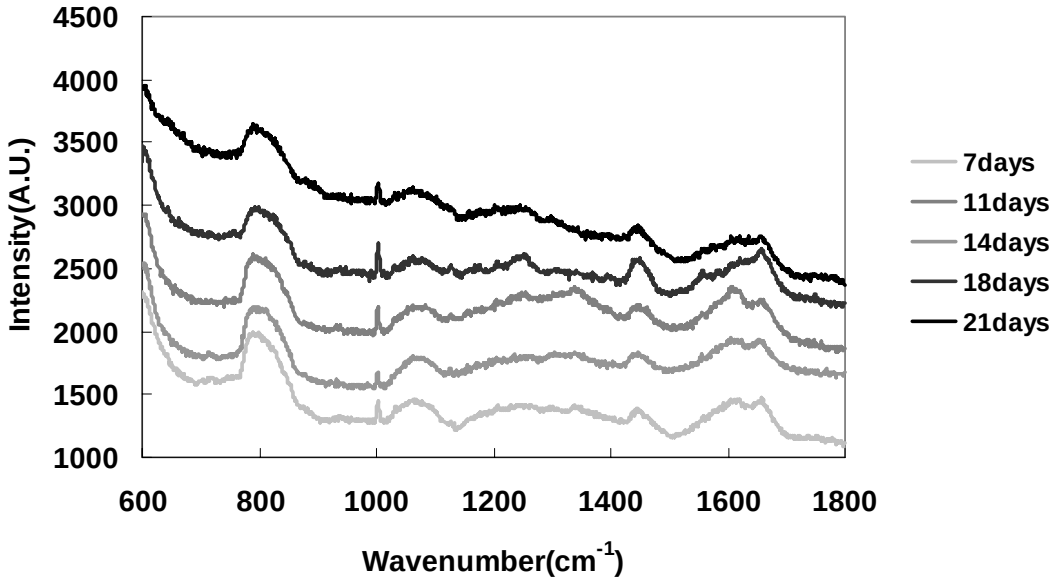
結果：

結果(一)：mesenchymal　stem cell in different days

Excited laser:　632.8nm

Integral time : 30sec x 6 scans

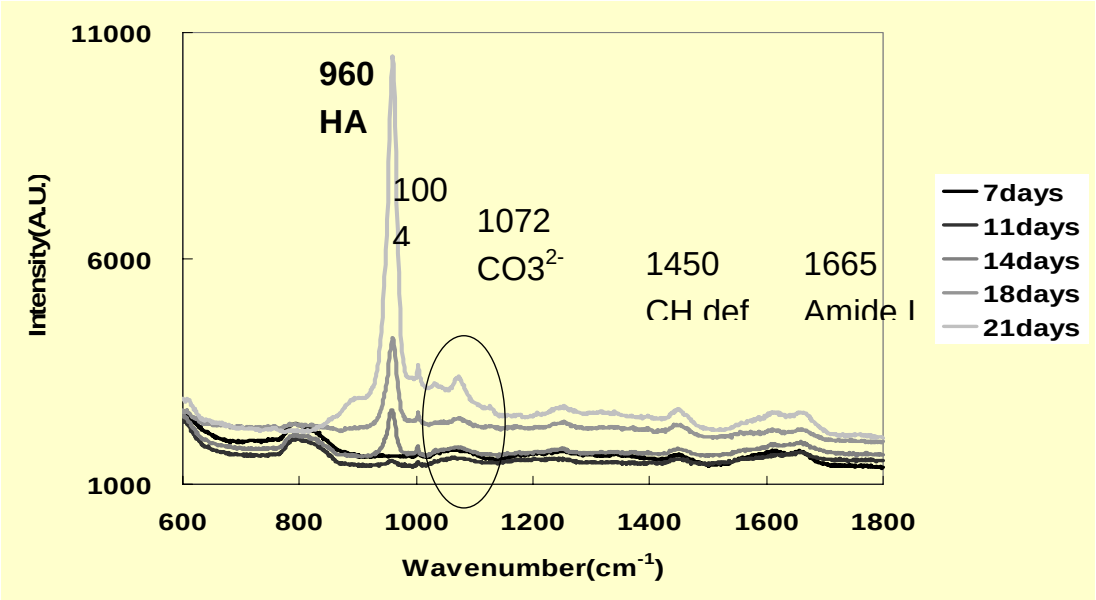
Scan range　: 600cm-1 to 1800cm-1



結果(二)：**Osteoblast in different days**

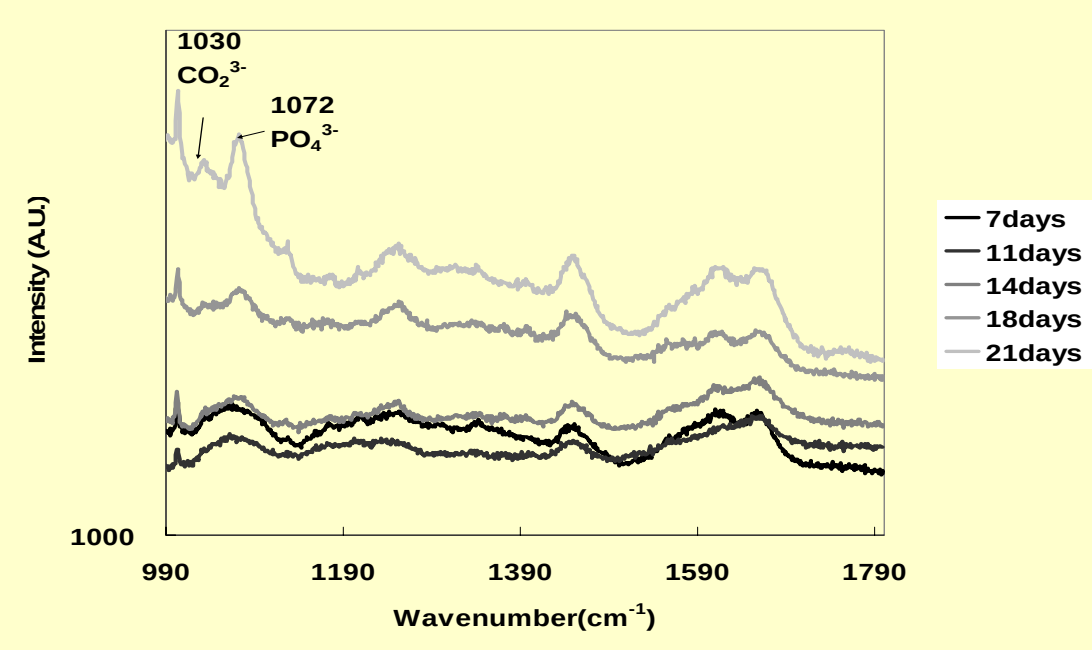
Excited laser:　632.8nm

Integral time : 30sec x 6 scans

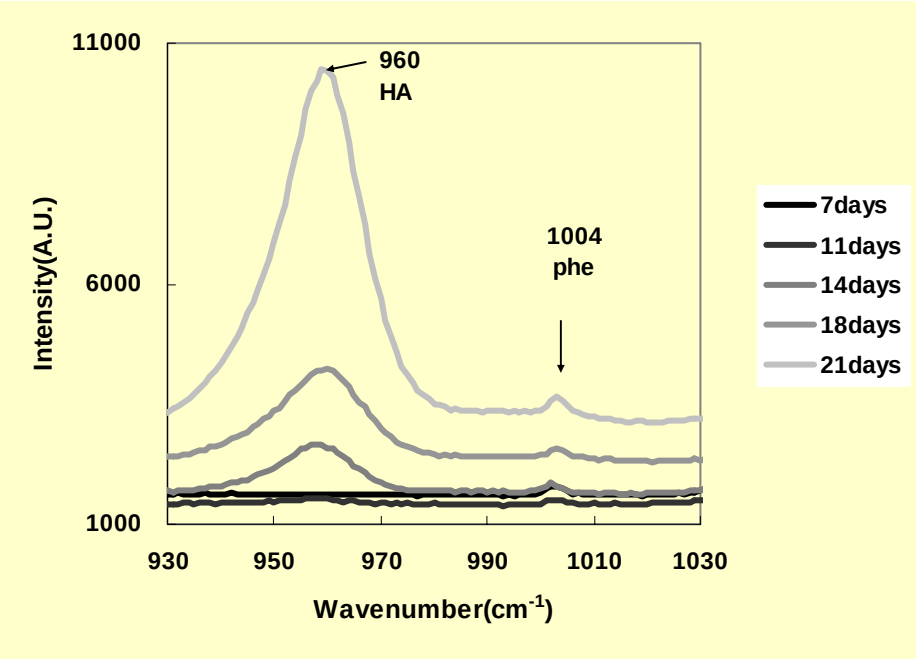


Scan range　: 600cm-1 to 1800cm-1

結果(三)： Mineralization for osteoblast

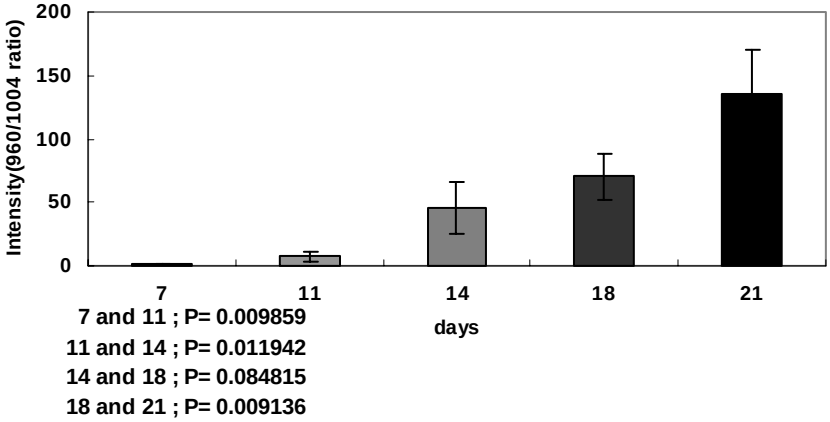


結果(四)：**Hydroxyapatite of osteoblast in different days**



結果(五): **Student t-test for HA in osteoblast 骨母細胞**

HA/Phe -- **Mineralization** / matrix



結論：

We have used the intensity of Raman peak of Hydroxyapatite as differentiation markers for osteoblast cells