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# Skin barrier function characterization by Raman spectroscopy: from in vitro to in vivo

Skin is a complex, multilayered organ which covers and protects the surface of human body against water loss and exogenous agents. Remarkable efforts have been developed in cutaneous research for: i/ the understanding of skin homeostasis, ii/ the characterization of a physiological and a physio-pathological status, and iii/ the detection and the evaluation of the impact of endogenous or exogenous particles within the skin.
Raman spectroscopy is becoming increasingly popular providing information on the organization, the conformational order for lipids, secondary and ternary structure for proteins the state of water mobility in the skin…. Raman has the advantage to provide a similar level of information in vitro, ex vivo and in vivo.
The talk displays a combined or parallel use of vibrational and separative techniques coupled to mass spectrometry for the characterization of the skin barrier in physiological or physiopathological states. Short examples highlight obtaining molecular understanding at in vitro, ex vivo and in vivo levels; as well as the use of Raman to follow-up drug permeation and the correlation with the evolution of the lipid's composition and their organizational order.

## References

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