

Alessandro Mendes, Innovation Director, Natura
Bio based cosmetics – Science creating value to sustainable ingredients

- 1. How long does it take you to ID the value of sustainable ingredients?**
It takes an average of 1-2 years depending on ingredient complexity.
- 2. Is your testing in-vitro or in-Vivo?**
Both in vitro and in vivo methodologies are used, however we never use animal testing. In vivo studies are conducted in human volunteers, after in vitro screening for support ingredient safety and efficacy.
- 3. In the genomics (in-vitro test) slide of the ingredients, what's the parameter for measuring "hormonal metabolism" and what's the related skin care benefit?**
For transcriptomics assay, a pool of biomarkers is used to evaluate hormonal metabolism from skin physiology literature, where we can also find potential skin care benefits.
- 4. Are the inactivated bacteria lysates ie cell walls or freeze dried bacteria?**
All bacteria were inactivated through tinalization processes.
- 5. Do you have the same regulation regarding ABS and Brazilian biodiversity law as another company (not Brazilian) that runs R&D on Brazilian raw materials?**
Brazilian biodiversity laws regulate every company that uses Brazilian biodiversity, regardless of their industrial activity.
- 6. Handwash assay: are you measuring live bacteria or 16s signals which could include killed bacteria with viable DNA/RNA?**
Only live bacteria were measured in handwash assays through biochemical methods.
- 7. What do you think about the residual effects of NATURA soaps in your preliminary studies?**
Soap residual effects, as well as other parameters, were taken into account in the experimental design and results were presented in international scientific forums.