The Centre Scientifique de Monaco and L’Oréal Recherche & Innovation publish their findings on the absence of harmful effects of UV filters used in cosmetics on the photosynthetic activity of corals

Clichy, 14 February 2019 – The Scientific Centre of Monaco (CSM) and L’Oréal Research & Innovation (R&I) have jointly developed a method to precisely evaluate the impact of sunscreen products on corals. The test is based on measuring one of the key parameters behind the bleaching of coral reefs, the photosynthesis of the micro-algae living symbiotically with the corals. The results of the study “Photochemical response of the scleractinian coral Stylophora pistillata to some sunscreen ingredients” have just been published in the leading scientific journal in this field “Coral Reefs”. The study shows that corals exposed for 5 weeks to 5 UV filters used in cosmetics fully retain their photosynthetic abilities, even when the filters are tested at concentrations far above those measured in the marine environment. https://rd.springer.com/article/10.1007/s00338-018-01759-4

Protection against skin cancer is a major public health issue, as the number of these cancers has almost doubled over the past 20 years. L’Oréal R&I has long been committed to research into innovative and effective sunscreen products. At the same time, the L’Oréal Group has taken great care to ensure the environmental safety of its products in both salt- and freshwater environments. Coral reefs have become a major environmental concern. In a number of regions around the globe, they are suffering worrying episodes of bleaching characterised by the loss of the micro-algae that live symbiotically with the corals. The scientific community of coral reef experts mainly attributes this bleaching to global warming. UV filters have recently been accused of having a negative impact on corals and also causing them to bleach. It was therefore important to conduct a scientific study to precisely measure that impact.

L’Oréal R&I has worked with CSM to evaluate the degree to which UV filters contribute to the bleaching of corals. To do so, the researchers at CSM developed a test in the laboratory on cultured corals from the species Stylophora pistillata. In controlled light and temperature conditions in natural seawater, the model can be used to rigorously evaluate the impact of any molecule that could contaminate coral reefs.

During the study, the researchers at CSM exposed the corals to increasing concentrations of UV filters, ranging from the maximum concentrations found in the sea in tourist areas up to concentrations 10,000 times greater. The main UV filters used in L’Oréal’s sunscreen products were tested by measuring the photosynthetic activity of the symbiotic micro-algae that live among the corals. After 5 weeks of contact, the results show that these organic filters have no harmful effects on the coral, even at concentrations greater than their solubility limit. These 5 organic UV filters used in cosmetics did not negatively affect the photosynthesis of the symbiotic algae, unlike certain weedkillers known for their rapid negative impact on the survival of these micro-algae.

“Our study is the first to develop a replicable test using a key parameter in the physiology of coral – which is very sensitive to environmental disturbances - the photosynthetic activity of the algae that lives symbiotically with the coral. These algae are essential for the life of their coral hosts. This test, currently applied to cosmetic products, could be used to evaluate the toxicity of any type of molecule” said Denis Allemand, Scientific Director at CSM.

“The development of this new test is part of the overall approach initiated by L’Oréal R&I over 15 years ago, which aims to ensure the environmental safety of the products we market” said Laurent Gilbert, Sustainable Innovation Manager at L’Oréal R&I.

L’Oréal R&I continues to demonstrate its commitment to the development of products that respect the marine environment by working with the CSM and the TARA Foundation.
About L’Oréal
L’Oréal has devoted itself to beauty for over 100 years. With its unique international portfolio of 36 diverse and complementary brands, the Group generated sales amounting to 26.9 billion euros in 2018 and employs 82,600 people worldwide. As the world’s leading beauty company, L’Oréal is present across all distribution networks: mass market, department stores, pharmacies and drugstores, hair salons, travel retail, branded retail and e-commerce.
Research and innovation, and a dedicated research team of 3,885 people, are at the core of L’Oréal’s strategy, working to meet beauty aspirations all over the world. L’Oréal’s sustainability commitment for 2020 “Sharing Beauty With All” sets out ambitious sustainable development objectives across the Group’s value chain.
For more information: http://mediaroom.loreal.com/en/

About CSM
The Centre Scientifique de Monaco (CSM) is the public research body of the Principality of Monaco. Founded in 1960 by Prince Rainier III, it has gradually become more specialised over the years. Since 1989, the CSM has been globally acknowledged for its research into the biology of corals (reef corals, temperate corals and precious corals) in relation to global climate change. In pursuing their work, the researchers at CSM develop techniques that vary from ecology in the field to genomics, and include physiology, microscopy or environmental economy. The CSM now has a Polar Biology Department and a Department of Medical Biology.

For further information and the full list of our research programmes, go to: www.centrescientifique.mc

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Contacts L’ORÉAL (switchboard + 33 1.47.56.70.00)

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<th>Individual shareholders and market authorities</th>
<th>Financial analysts and institutional investors</th>
<th>Journalists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jean Régis CAROF Tel : + 33 (0)1.47.56.83.02 <a href="mailto:jean-regis.carof@loreal.com">jean-regis.carof@loreal.com</a></td>
<td>Françoise LAUVIN Tel : +33 (0)1.47.56.86.82 <a href="mailto:francoise.lauvin@loreal.com">francoise.lauvin@loreal.com</a></td>
<td>Stéphanie CARSON-PARKER Tel : + 33 (0)1 47 56 76 71 <a href="mailto:stephanie.carsonparker@loreal.com">stephanie.carsonparker@loreal.com</a></td>
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