Max-Planck-Innovation

Technology Offer

A novel class of herbal compounds *saiginols* with strong UV-B absorbing properties

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Background

UV-B radiation is a major damaging agent causing damage to plants, tissues and human or animal skin upon exposure. To persist strong UV-B radiation plants produce additional antioxidant sunscreen pigments that belong to the chemical compound family of phenylpropanoids. Since many conventional compounds with sunscreen protection potential do not enter the market due to toxic side effects or they bear the risk to become environmental pollutants when accumulating in natural resources, application of herbal compounds with UV absorbing properties in sunscreen, cosmetics as well as their use in biomaterials is of great interest.

Technology

Researchers from the Max-Planck-Institute of Molecular Plant Physiology have characterized and isolated a novel class of phenylacylated flavonols, called **saiginols** that considerably contribute to UV-B protection in plants due to increased UV-B absorption properties. Gene manipulation causing saiginol overproduction protects plants significantly from damage induced by strong UV-B radiation (1).

Such novel, non-toxic compounds and the correlated protein capable of conferring UV-B tolerance offer the possibility to the generation of UV-B tolerant plants for increasing yield. Moreover, the identified new class of herbal compounds is suitable for the application in sunscreen and anti-aging cosmetics or could be integrated into biomaterials for the purpose of protecting an object or subject from UV-B radiation. We are currently looking for collaboration and licensing partners to further develop this technology.

Advantages

- **Simple production of a novel herbal compound with strong UV-B absorbing properties**
- **Use of formulations and compositions comprising such compounds for the protection of biological or non-biological material**

Patent Information: European priority application has been filed in June 2015. Pending patent is currently under examination in Europe, US and Australia.

Literature: (1) Tohge, T. et al., Nat. Commun. 7:12399 doi: 10.1038/ncomms12399 (2016)