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A New Anti-Aging Signaling Molecule with an Absorption Peak around 264 nm along with Resveratrol Extracted from Sprouted Black Gram, Green Gram, or Kidney Bean Seeds by Applying Pulsed Heating

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Abstract- For anti-aging, Resveratrol was viewed as the ultimate molecule earlier, and now the world is looking at NAD⁺ (along with Resveratrol or its equivalent Pterostilbene). The author succeeded in extracting a good quality Resveratrol without unwanted proteins from sprouted Peanut kernels by applying pulsed heat and filed a patent. The author was then trying to produce trans-resveratrol from sprouted beans like black gram, green gram, kidney bean etc by using the same method of pulsed heating and was surprised to see that all these beans produced trans-resveratrol with an absorption peak in the range of 306 to 308 nm along with another strong peak around 264 nm. The 1cm long root of the sprout ejected the new molecule with abs peak at 264 nm along with Resveratrol under pulsed heat. (Bubbles were coming out of the root-hole of the bean-sprout when the heat pulse was turned off). The NAD⁺ and NR compounds have an absorption peak at 260 nm same as that of melted/denatured DNA and other internals of a cell, but it appears that the live sprouted-seeds produced a new signaling molecule before death of the cells inside the seeds.

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I. INTRODUCTION

Resveratrol is thought to rev up one of the sirtuins, SIRT1, which appears to help protect mice on high doses of resveratrol from the ill effects of high-fat diets.[1] Increased expression of the SIRT1 protein, when induced by a synthetic small molecule activator of SIRT1 (SRT2104), extended both the mean and maximal lifespan of mice [2]. For anti-aging Resveratrol was viewed as the ultimate product earlier, and now the world is looking at NAD⁺ (along with Resveratrol or its equivalent Pterostilbene) [1]. Giving older mice a chemical called NAD for just one week made 2-year-old-mice tissue resemble that of 6-month-old mice (in human years, that would be akin to a

60-year-old's cells becoming more like those belonging to a 20-year-old). [3], [4]

The author was trying to extract pure resveratrol and his work resulted in filing up of a patent [5] where proteins-free Resveratrol was extracted from sprouted peanut kernels by applying pulsed heat. Later as a curiosity, the author tried that trick to extract Resveratrol from Black gram, Green gram, and kidney beans sprouts. Surprisingly this leads to a discovery that these budding plants excreted an un-known molecule with UV absorption peak of around 264 nm along with trans-Resveratrol.

II. EXPERIMENT WITH BLACK GRAM

The black gram seeds were immersed in a right quantity of water for two days leading to sprouts. The outer skin cover of these sprouts was initially not removed; these sprouts were put in fresh water and a pulsed form of heat was applied. When the heat pulse was ON, the water just began to give boiling bubbles in the water, and when the heat pulse was OFF, the sprouted kernels reacted by ejecting something in the form of bubbles coming out of the roots for some time. The process of pulse heating was continued for about 30 minutes, and the water extract was tested in a UV spectrometer.

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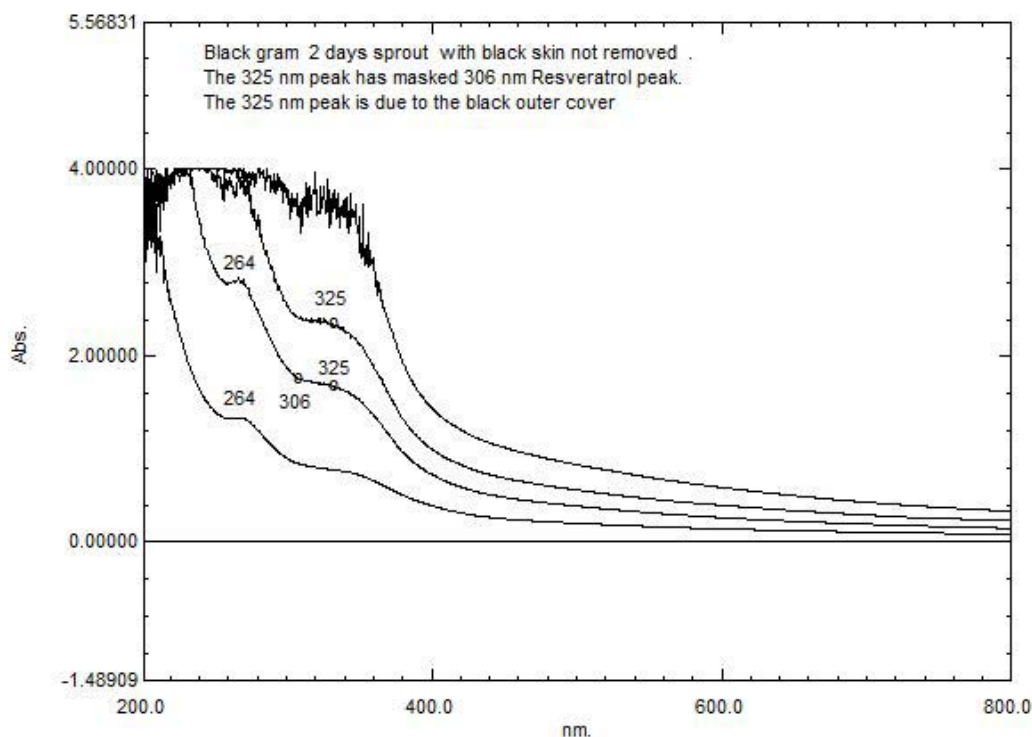


Fig. 1: UV absorption spectrum of water extract of Black gram sprouts with skin not removed

Figure 1 shows the UV spectrum obtained. It was disappointing at first to see that there was no peak at 306 nm corresponding to Resveratrol. Instead, there were two peaks, one around 325 nm and another at 264 nm. The black cover sticking to the baby sprouts of

black gram seeds was suspected to give some unwanted signals, and so the experiment was repeated by removing the black skin. Figure 2 shows the UV response obtained that showed the Resveratrol peak at 306 nm, but the peak at 264 nm did not go away.

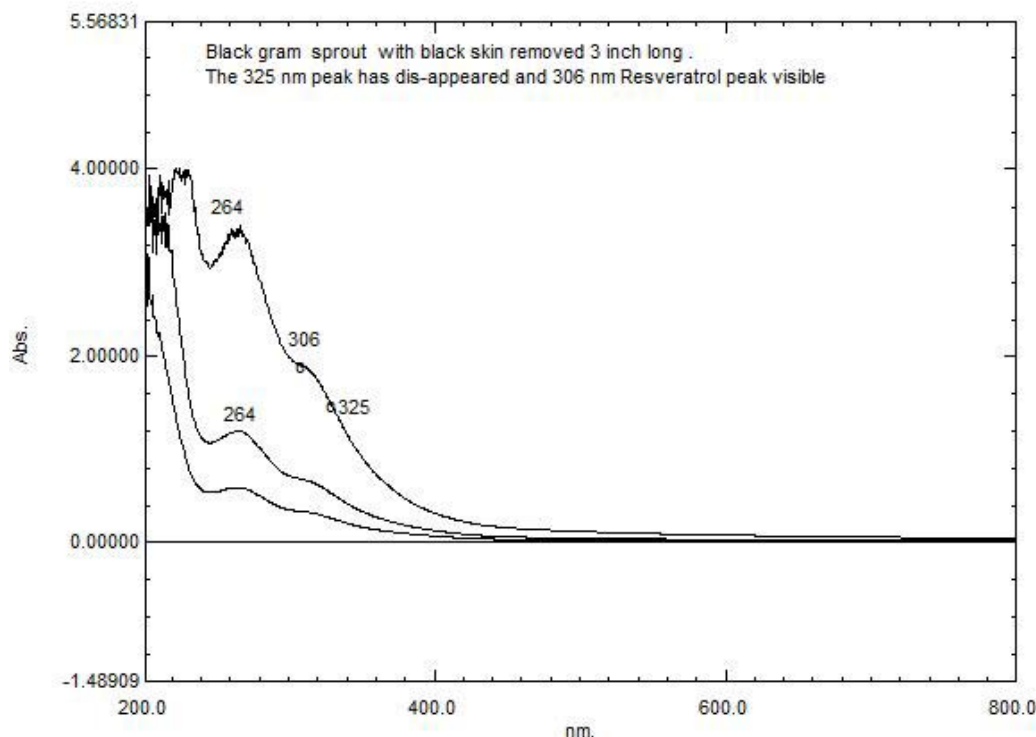


Fig. 2: UV absorption spectrum of water extract of Black gram sprouts without skin

III. EXPERIMENT WITH GREEN GRAM

Green gram seeds were sprouted by soaking the seeds in water for about 36 hours. The green cover from each sprout was removed. The skin-less sprouts were put in fresh water, and a pulsed heating was applied for 30 minutes. The water extract after heating was tested in the UV spectrometer. Fig.3 shows the UV

spectrum obtained. There were the same clear two peaks similar to black gram one at 306 nm for Resveratrol and another at 264 nm. The curiosity regarding 264 nm peak increased. Since it was close to 260 nm, the author thought that the plant was giving an important nucleus related signaling in addition to Resveratrol.

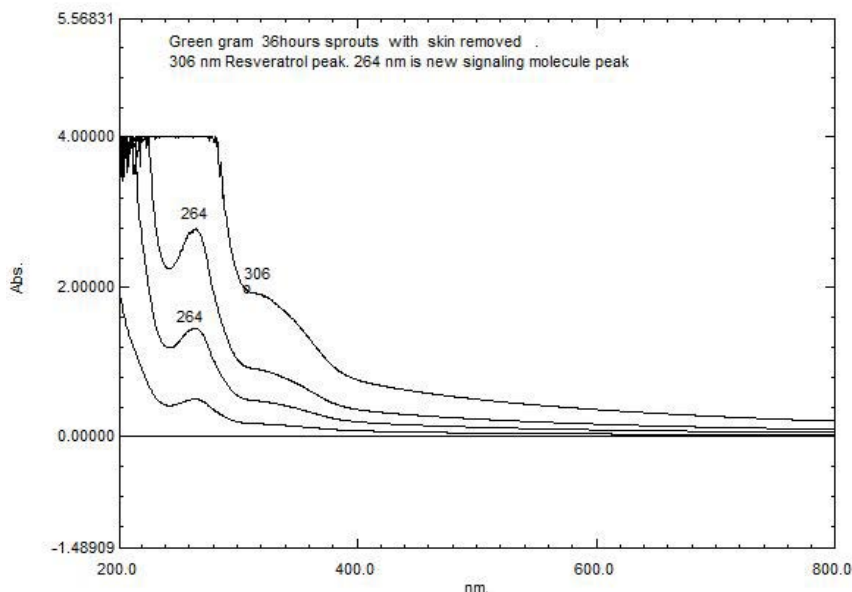


Fig. 3: UV absorption spectrum of water extract of Green gram sprouts without skin

IV. EXPERIMENT WITH KIDNEY BEAN

Kidney Bean seeds were made to sprout with root emerging from the seed with a length of about two cm. The seed cover was removed, and pulsed heating was applied by keeping the sprouts in water. Fig.4 shows

the spectrum obtained. There were the same clear two peaks similar to black gram and green gram one at 306 nm for Resveratrol and another at 264 nm. In fact, the peak at 264 nm was much stronger than the Resveratrol peak at 306 nm.

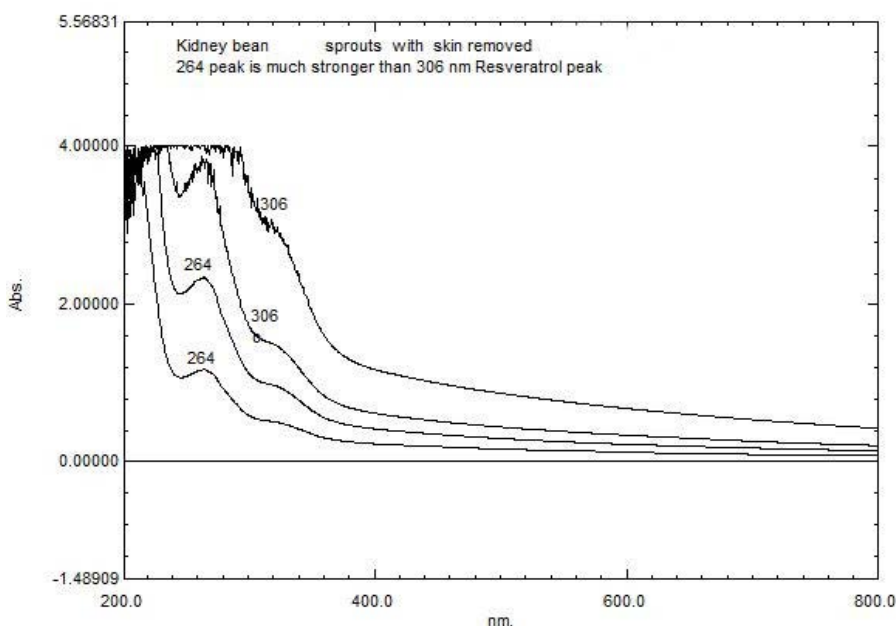


Fig. 4: UV absorption spectrum of water extract of Kidney bean sprouts with skin removed

V. FURTHER EXPERIMENTS

When the sprouts grew with green leaves, the UV spectrum showed an increase in the Resveratrol peak and a decrease in the 264 nm peak. In fact, any green plant along with the roots emitted Resveratrol via the holes in the root ends. Even grass (Korai grass) with a black bulb at the bottom as well as 6-inch long sweet sorghum plants emitted Resveratrol but not the molecule corresponding to the 264 nm peak. That is, the 264 nm peak is coming only from the baby sprouts of the pulse seeds. When experimenting with the sprouts of Chick-pea, accidentally continuous over-heating got applied to the sprouts (without removing the skin of the seeds), and the UV spectrum showed a cis-Resveratrol and a peak at 260 nm (meaning that the cells were dead due to quick over-heating) instead of 264 nm. That means the molecule corresponding to the peak at 264 nm was a clear signaling molecule given out by the cells before death (something similar to Resveratrol that is given out by healthy plants under stress). The author drank the water extract of the new molecule (along with resveratrol built in) of black gram and green gram on different days and no side effects were noticed. No overflowing new energy was noticed after drinking the extract, but instead reduced energy or drive level was experienced for a one-shot trial.

VI. USE OF THE NEW SIGNALING MOLECULE

The author believes that the signaling molecule with a peak at 264 nm will play a major role in the anti-aging supplements. In what way this molecule either alone or along with Resveratrol and NAD⁺ will increase the life of mice (and humans) will have to be tested.

VII. CONCLUSION

This article presented the discovery of a new molecule with an absorption peak at 264 nm from baby sprouts of black gram, green gram and Kidney beans. This molecule is believed to be a signaling molecule emitted by the heat-stressed baby sprouts that will play a role in anti-aging in the future.

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