

9 th International Congress on Nutrition and Health

**Evaluation of antioxidant activity of wild medicinal
plant *Ziziphora tenuior* L and using plant tissue culture
to increase its activity**

Dr. Abdulkarim Dakah



Researcher in TACT Company for food complements
and plant oils.

Associated professor in International University for
Sciences and Technology

abdu83alkarim@yahoo.com

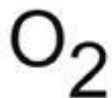
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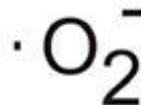
What are the Reactive oxygen species (ROS)?



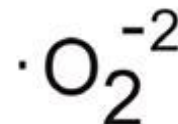
Oxygen



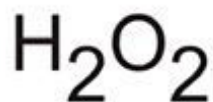
Superoxide anion



Peroxide



Hydrogen Peroxide

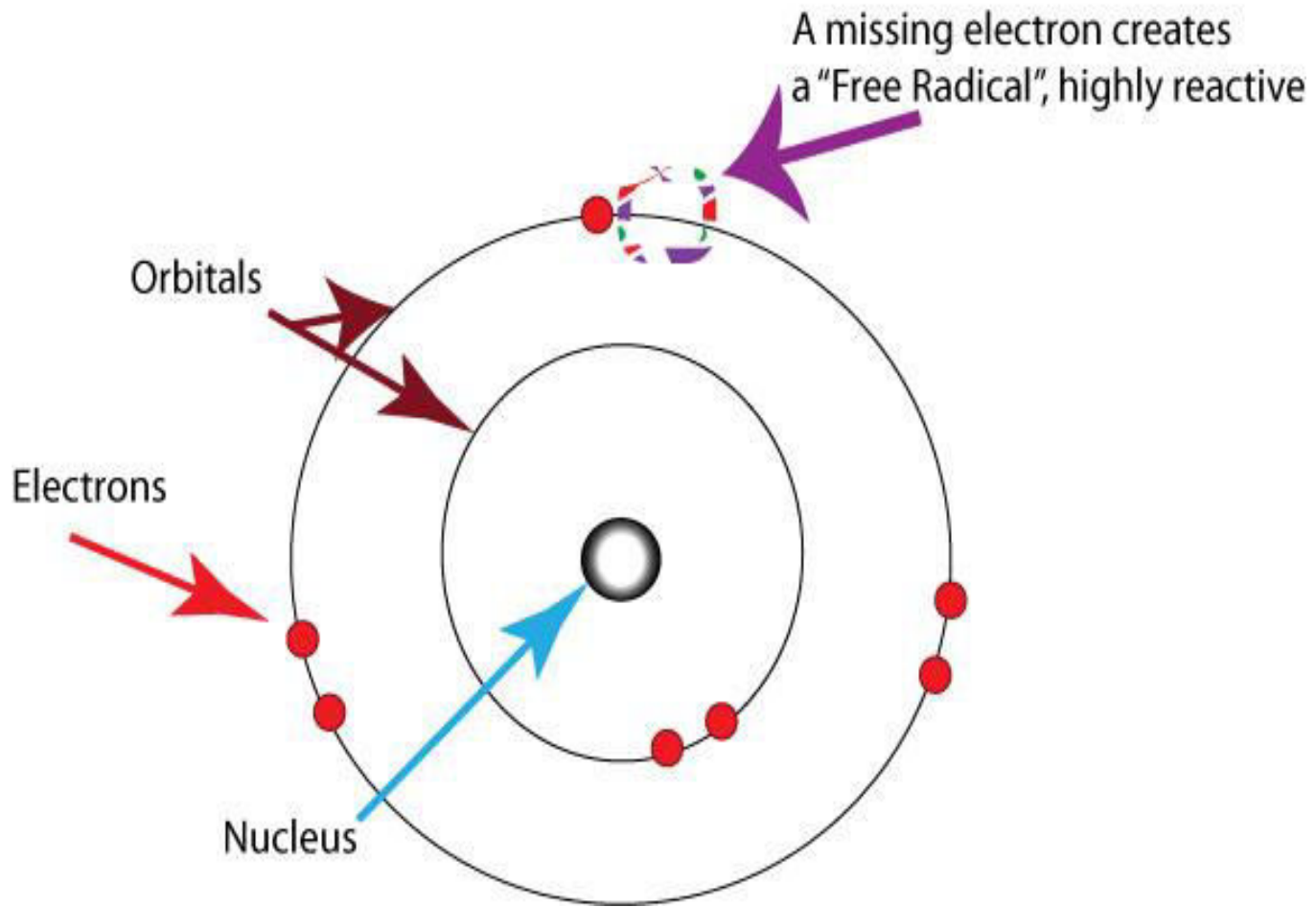


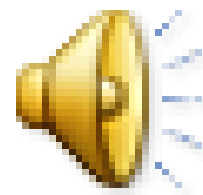
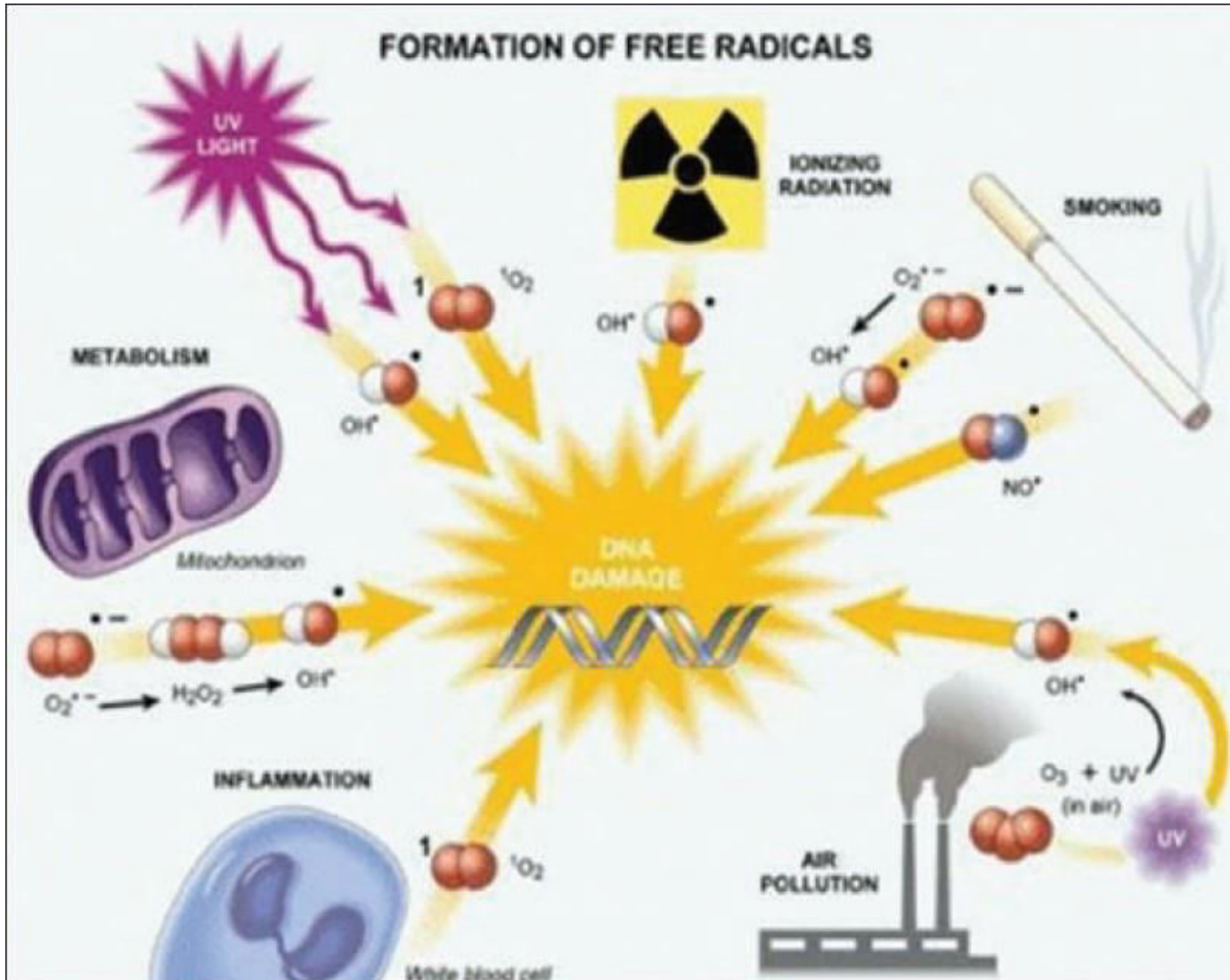
Hydroxyl radical



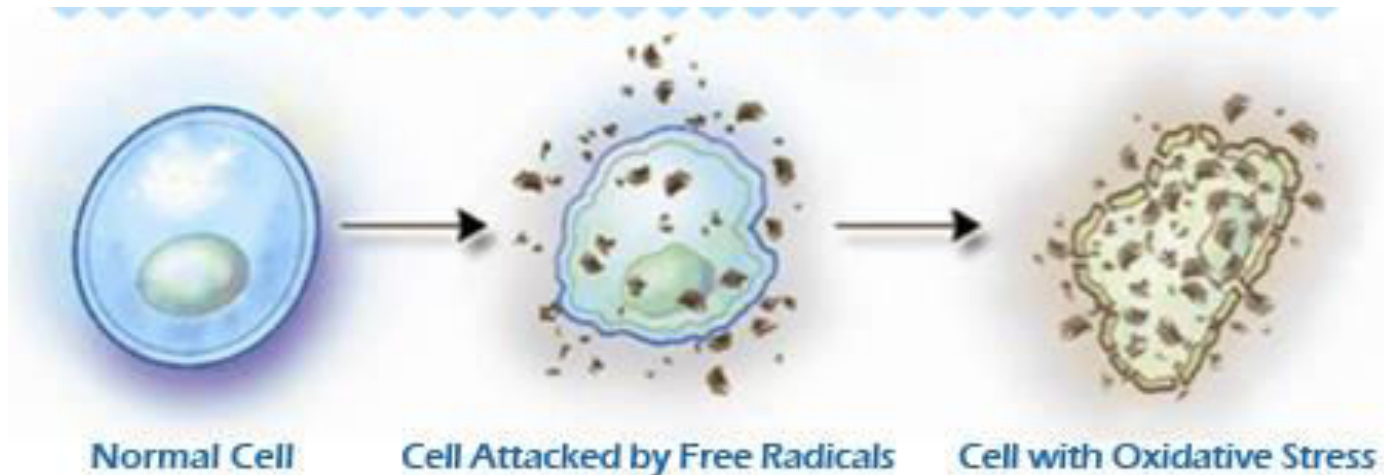
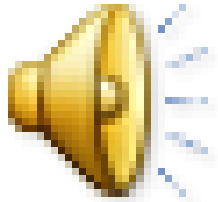
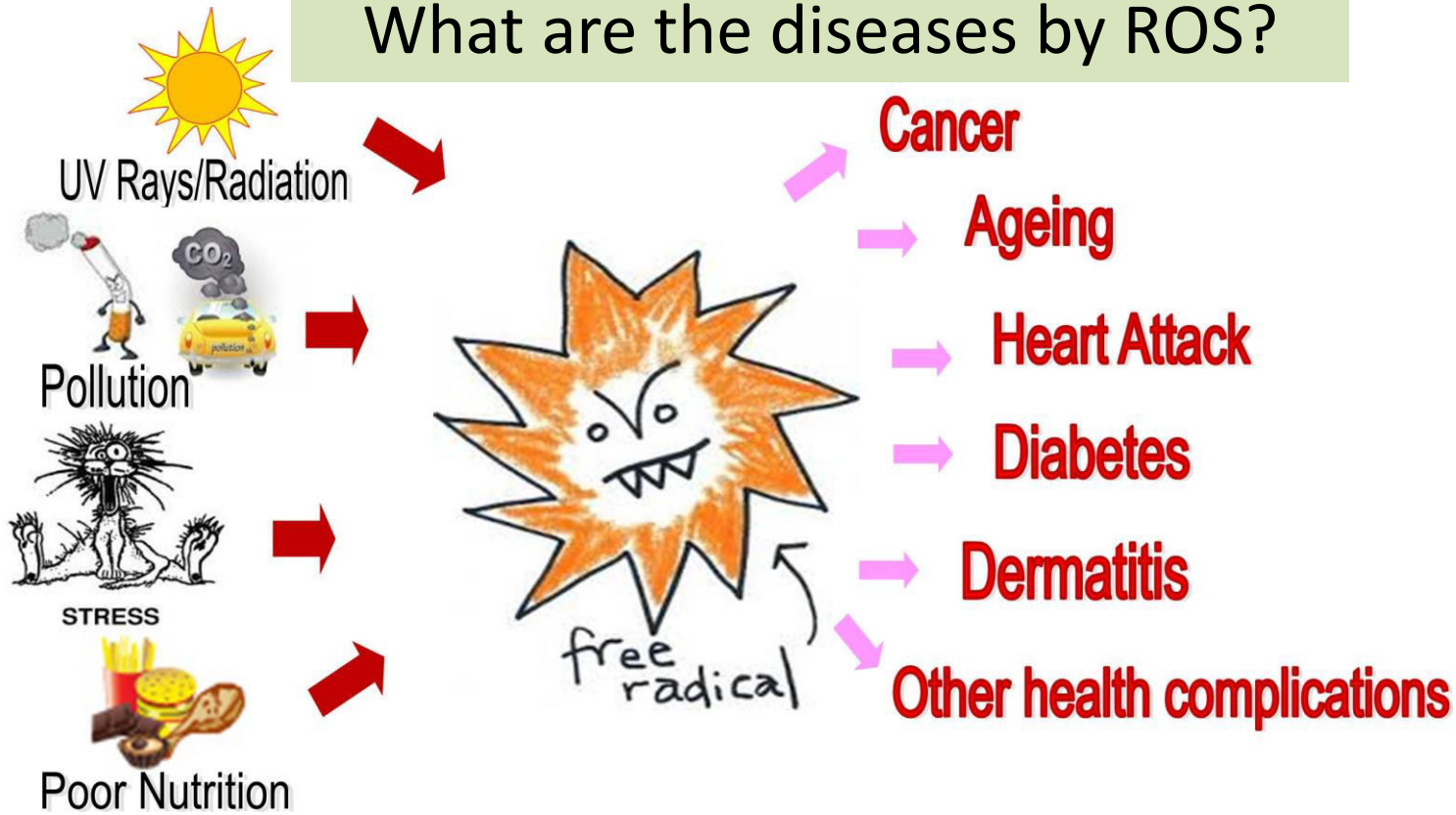
Hydroxyl ion



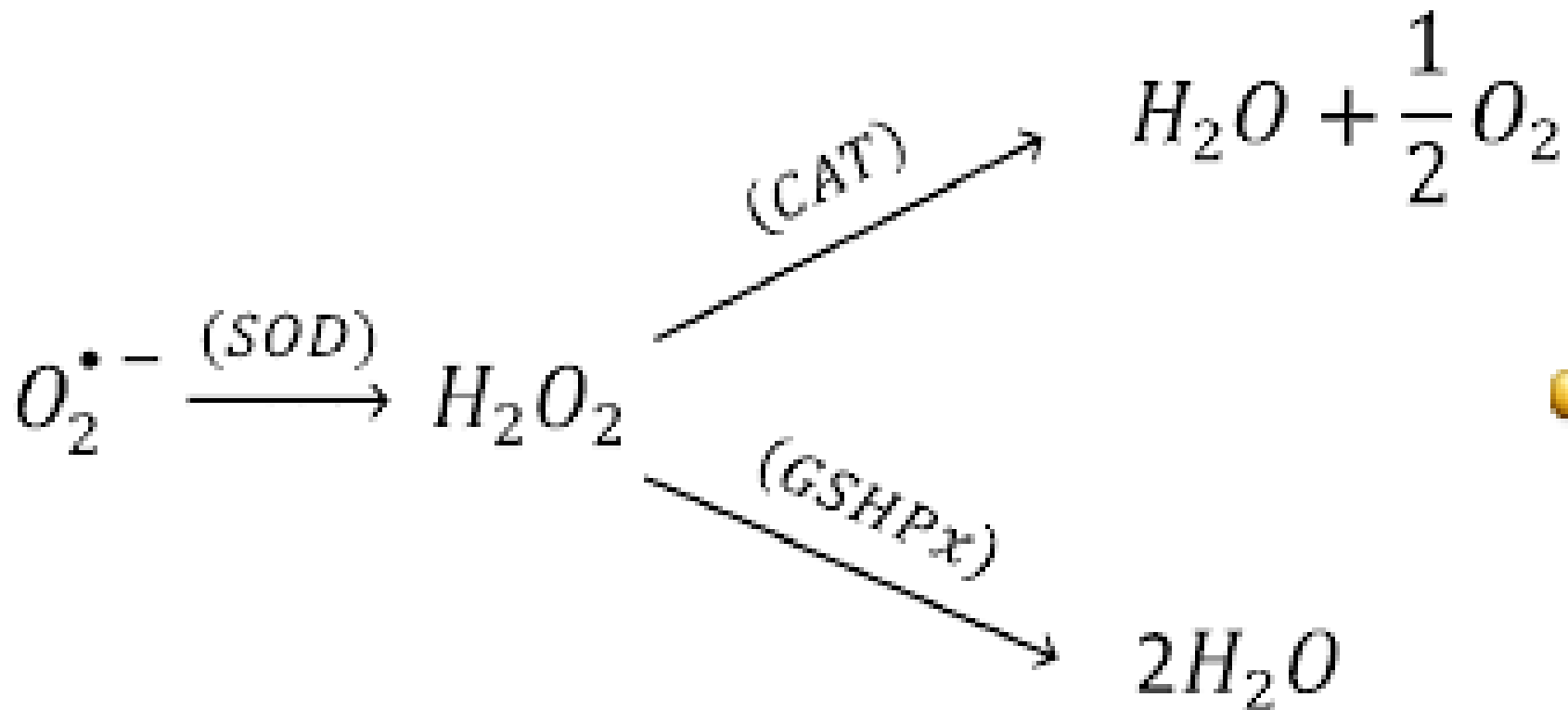




What are the diseases by ROS?



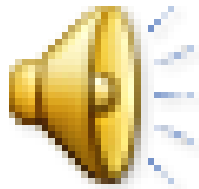
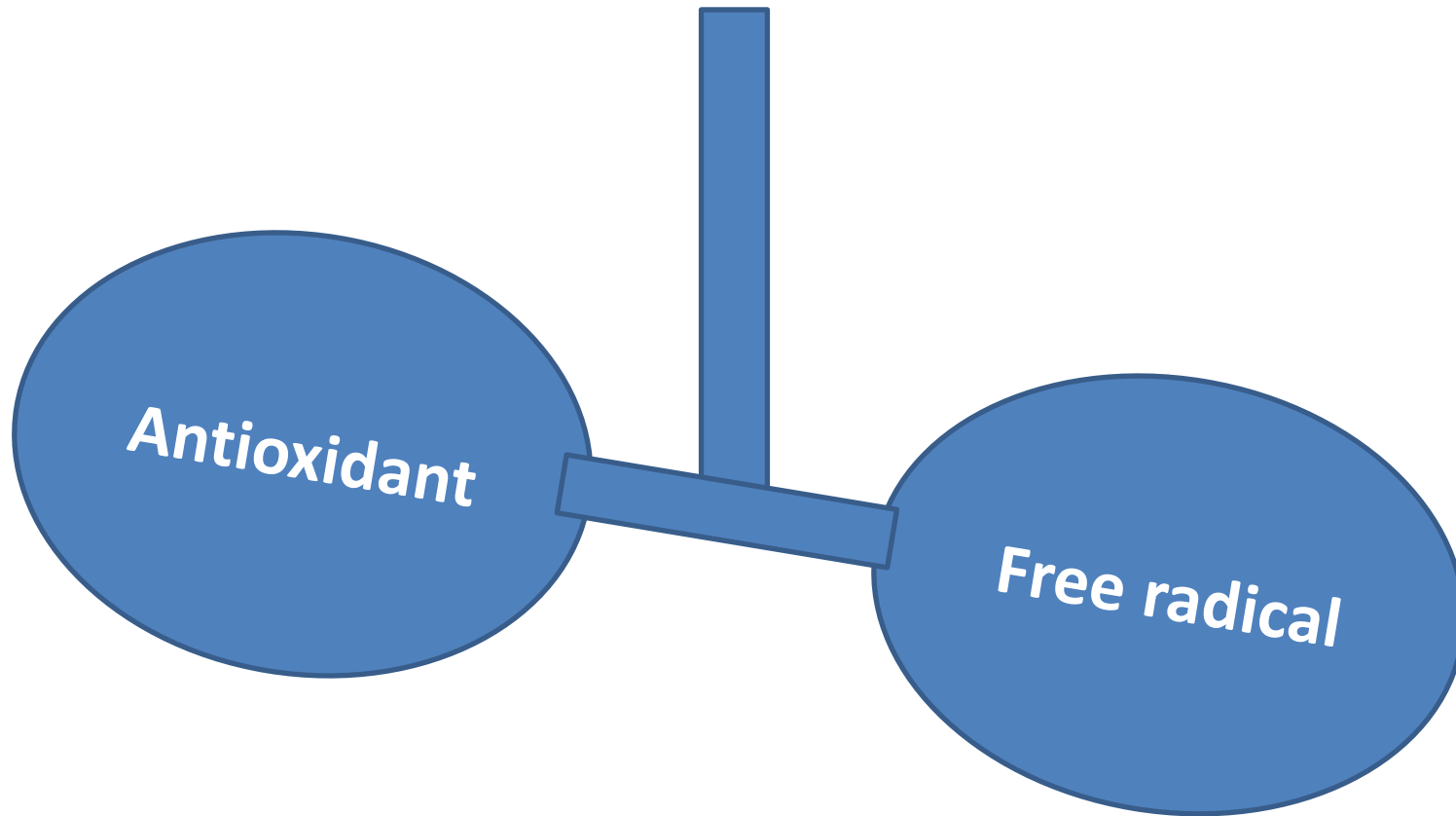
How can we reduce ROS in our body?

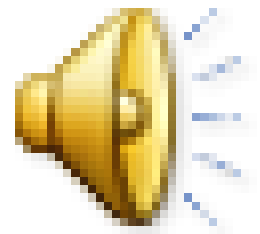


Free Radicals & Antioxidants

Health depends on the balance between free radicals and antioxidants

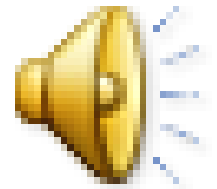








High antioxidant foods



Plant tissue culture and medicinal plants



Dr. Abdulkarim Dakah

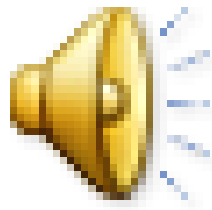
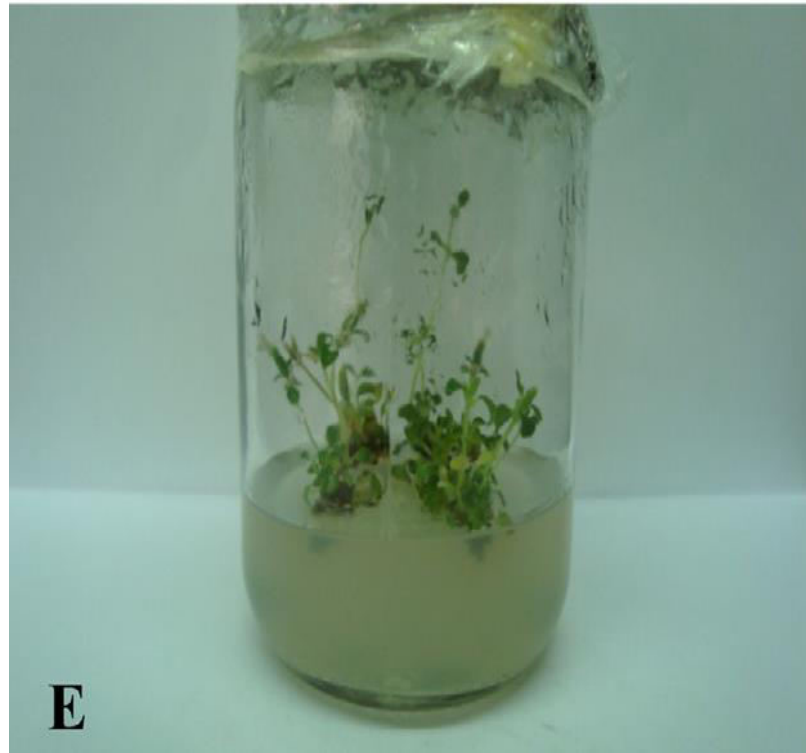
Importance of Plant tissue culture



Ziziphora tenuior



Why *Z. tenuior*?





Extract type (Growth regulators combination)	IC ₅₀ (mg/ml)
Methanol extract of wild plant	9.229± 0.144 f
Aqueous extract of wild plant	0.516± 0.001 b
Methanol extract of plant (0.5 Kin + 0.1 NAA)	8.712± 0.016 e
Aqueous extract of plant (0.5 Kin + 0.1 NAA)	0.399± 0.011 ab
Methanol extract of plant (1 Kin + 0.1 NAA)	8.452± 0.016 d
Aqueous extract of plant (1 Kin + 0.1 NAA)	0.369± 0.001 a
Methanol extract of plant (1.5 Kin + 0.1 NAA)	8.026± 0.013 c
Aqueous extract of plant (1.5 Kin + 0.1 NAA)	0.307± 0.001 a
Methanol extract of plant (0 Kin + 0 NAA)	8.832± 0.035 e
Aqueous extract of plant (0 Kin + 0 NAA)	0.411± 0.007 ab



Conclusions

- we can use plant tissue culture to increase the active substance.
- our results showed that the water extracts of *in vitro* produced plants showed an increase in antioxidant activity as compared to the starting material (wild plant).



Thank you

