Antioxidant: Antioxidanti, Antioxidantii

Pennington Biomedical Research Center

Division of Education

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Antioxidant, antioxidanti: Antioxidantii fantana tineretii!

Procesul de imbatranire cu cauzele endogene si exogene

- Terapia Anti Aging cu antioxidanti
- Fountain of Youth - Anti imbatranire - Longevitate

Fountain of Youth Anti Aging

- Antioxidantii Fantana Tineretii



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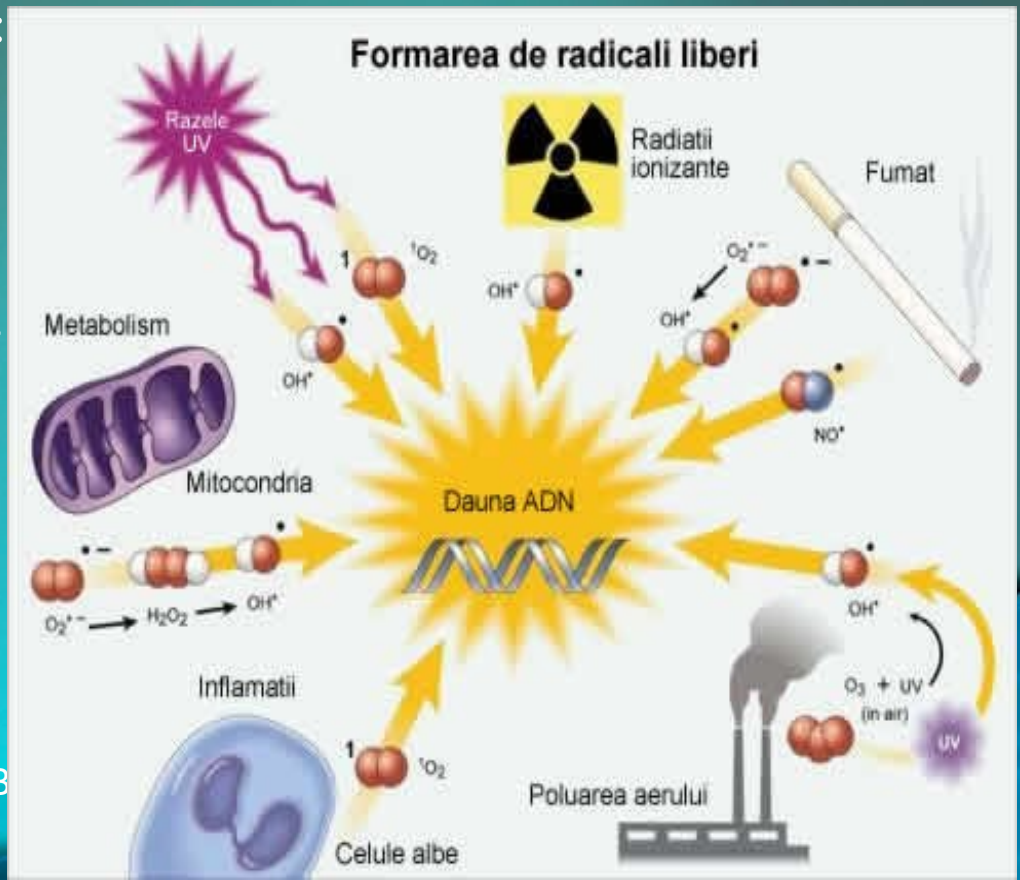
Introducere: Radicalii liberi considerati ca mediatori patologici

Radicalii liberi considerati ca mediatori patologici.

Formarea de radicali liberi prin:

Factori exogeni ca poluarea aerului, razele UV, radiatii ionizante,

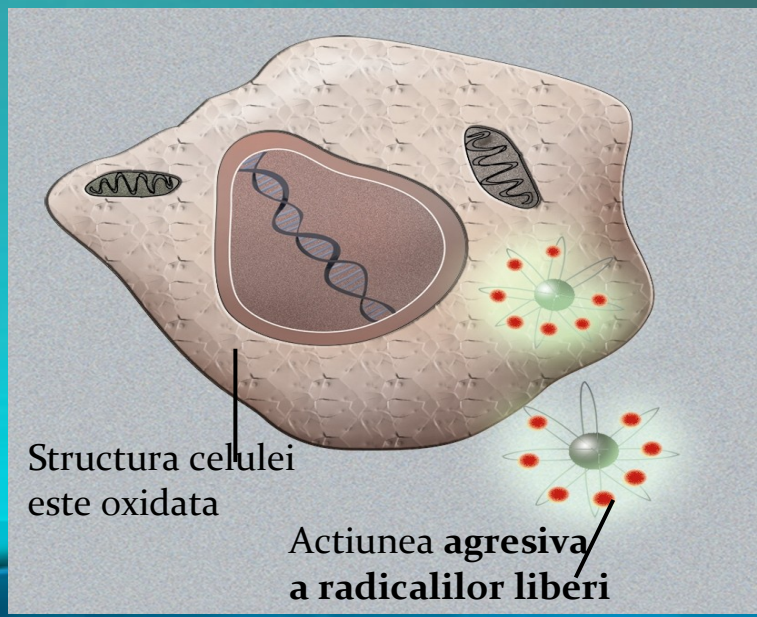
- Factori endogeni pot fi stres,
- exercitiu fizic extenuant,
- inflamatii, fumat.



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Procesul de imbatranire:
Structura celulei este oxidata

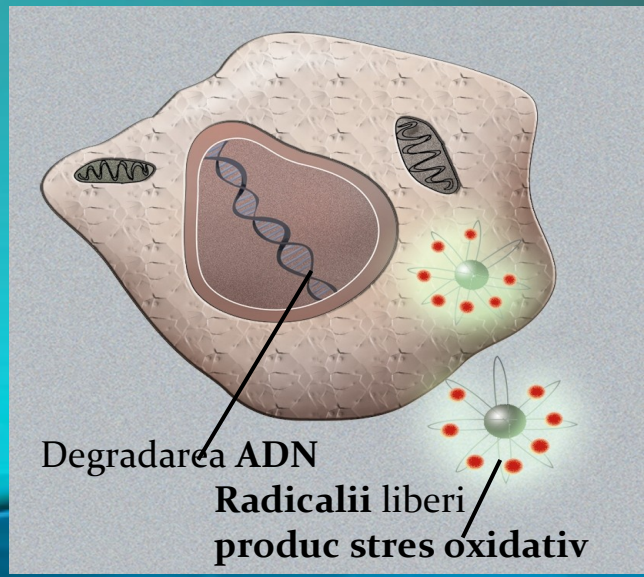
- Procesul de imbatranire:
- Structura celulei este oxidata de actiunea agresiva a radicalilor liberi.
- Tipuri de radicali liberi: Radicalii liberi ai oxigenului, Radicalii liberi ai azotului, Radicalul thiil



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Antioxidantii: Inhibitori de stres oxidativ

- Procesul de imbatranire:
- Antioxidantii sint inhibitori de stres oxidativ.
- Stresul oxidativ induce agregarea plachetara

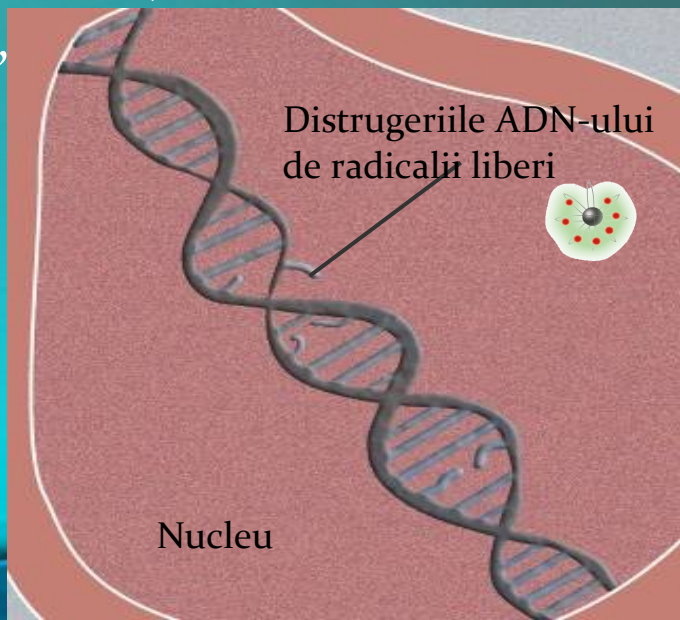


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Antioxidantii: Anti imbatranire - Anti Aging

- Antioxidantii incetinesc procesul de imbatranire:
- Anti imbatranire - Anti Aging
- Inalta concentratie de oxigen reactiv - radicalii liberi si cantitatea insuficienta in organism de antioxidanti, genera in organite (centrale energetice celulare) eficacitatea scazuta a repararii ADN-ului,
- ca rezultat: Disfunctia mitocondriala, care este o caracteristica a celulelor maligne.

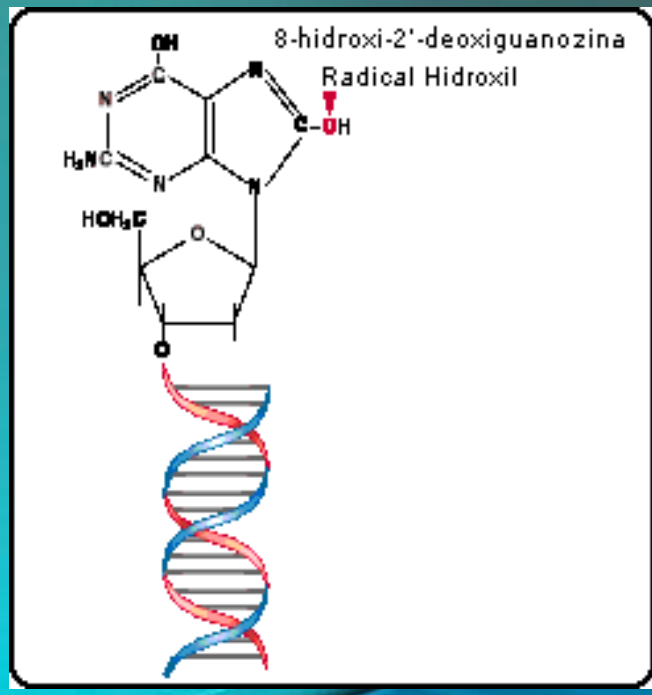
Degradarea ADN-ului de radicalii liberi



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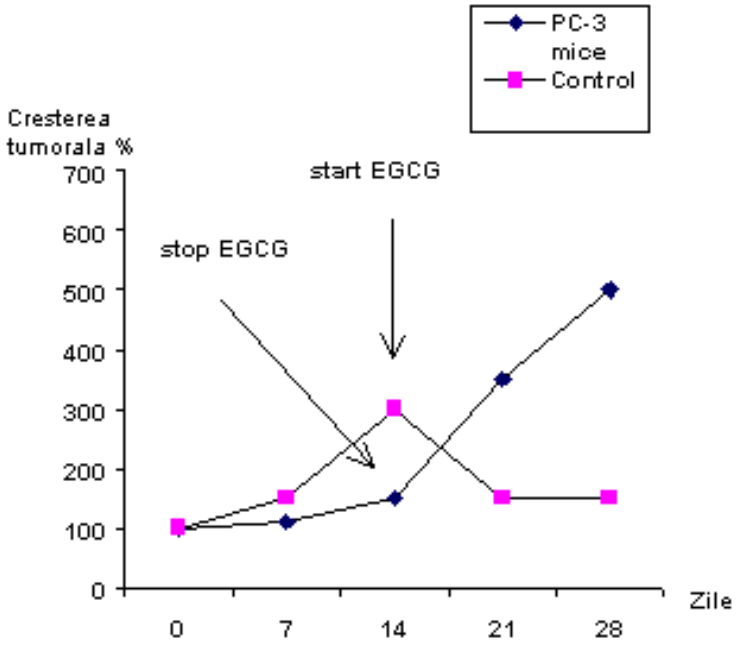
Procesul de imbatranire:
Anti imbatranirea cu antioxidanti

- Procesul de imbatranire, anti-imbatranirea cu: Antioxidanti
- Apararea antioxidativa de radicalii liberi
- Mutatiile ADN-ului de radicalii liberi afecteaza energia celulara ATP



Procesul de imbatranire:
Anti imbatranirea cu antioxidanti

- Procesul de imbatranire, anti-imbatranirea cu: Antioxidanti
- Administrarea de antioxidanti ca factor anti cancer determina reversia fenotipului malign prin inhibarea celulelor de cancer
- Anti cancer: EGCG
- Galatul de epigalocatechina

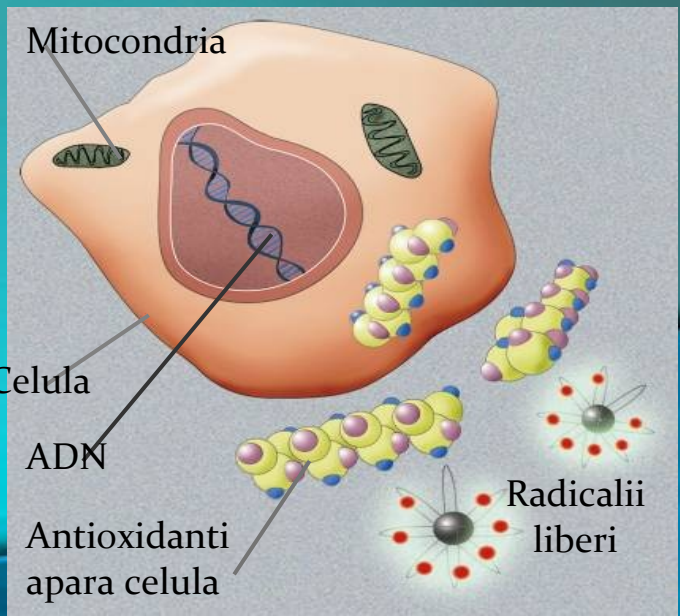


Relatia ceai verde (EGCG) si PC-3 dupa Liao si colab. 1995

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Antioxidant, antioxidanti: Antioxidantii fantana tineretii!

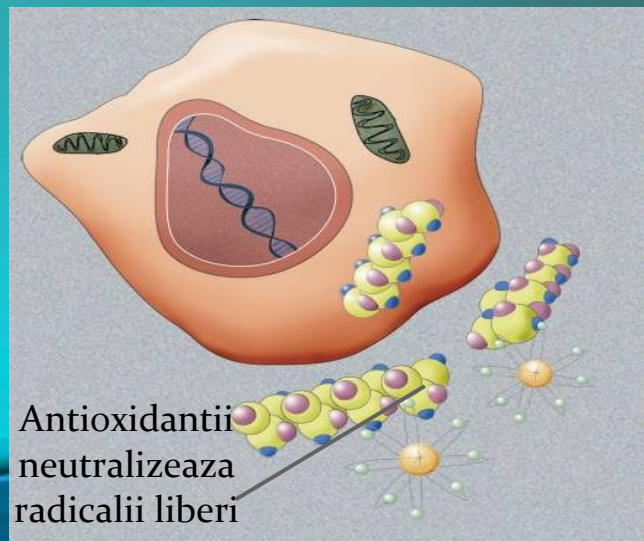
- Despre antioxidanti: Antioxidantii sint molecule care apara organismul de efectele oxigenului reactiv.
- Radicalii liberi produc stres oxidativ, antioxidantii apara celula de radicalii liberi care sint molecule instabile, contin electroni neimperecheati, adica un electron ocupa un singur orbital.



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Antioxidantii: Densitatea antioxidativa

- Procesul de ambatranire: Densitatea antioxidativa
- Expunerea la radicalii liberi afecteaza nu numai celula ci si ADN-ul, cu efecte in replicarea incorecta.
- Eficacitatea scazuta a repararii ADN-ului rezulta mutatii si reducerea sanatatii prin:
- Disfunctia mitocondriala care este o caracteristica a celulelor maligne, datorat prin:
- Capacitatea scazuta antioxidativa.



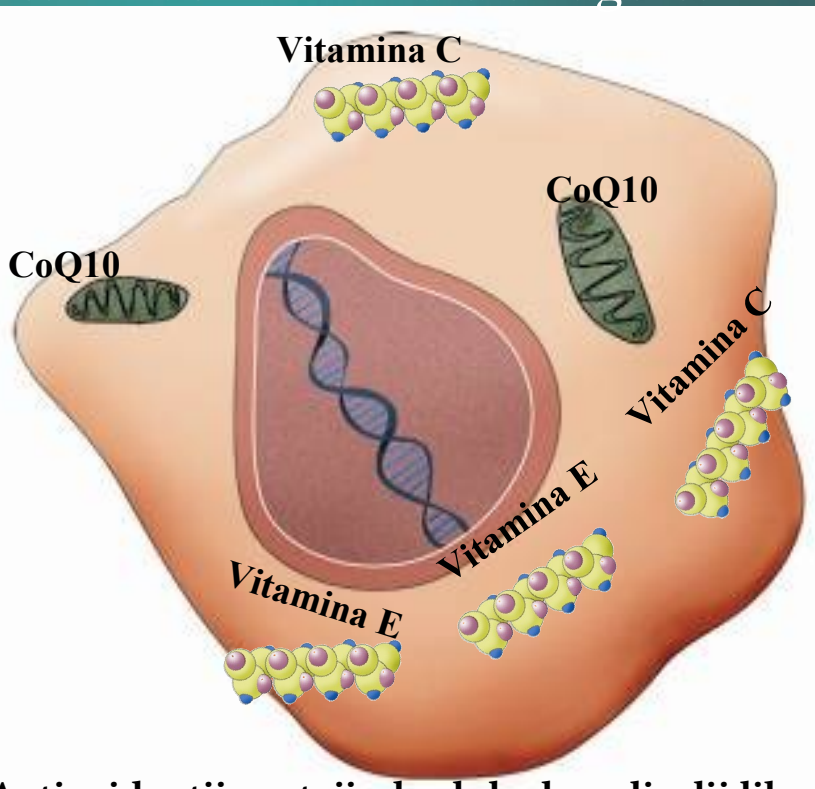
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Antioxidanti: Capacitate suficienta antioxidativa

Antioxidanti se gasesc in orice celula, protejeaza organismul de distrugerile provocate la nivel celular de radicalii liberi

- Antioxidantii pot neutraliza radicalii liberi limitind distrugerea provocata, daca suficienti antioxidanti sint involvati,
- Capacitate suficienta antioxidativa
- Acid Alfa Lipoic prin proprietati si functie regenereaza alti antioxidanti ca: Vitamina C, Vitamina E, Glutation, Coenzima Q10 ofera protectie antioxidativa de efectele radicalilor liberi.

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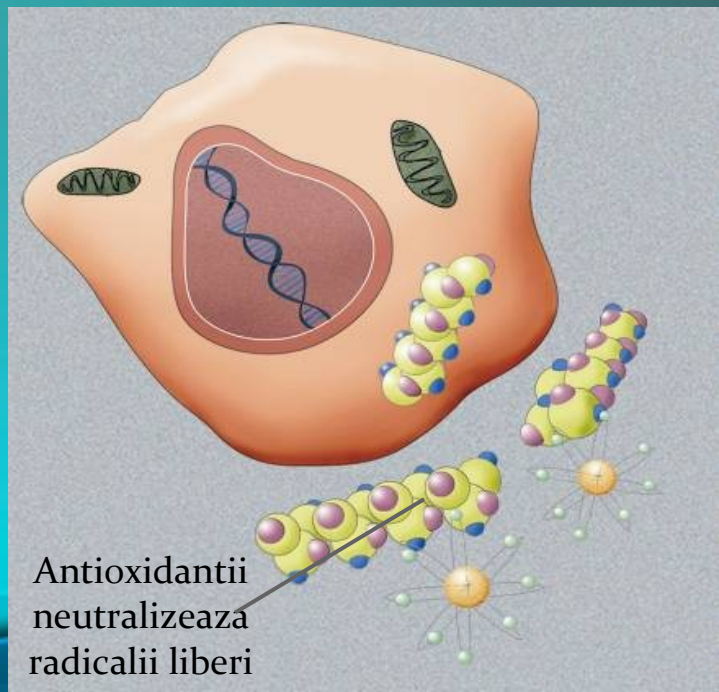


Antioxidantii protejind celula de radicalii liberi

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Antioxidanti: Sursa

- Sint o multime de antioxidanti in extracte de plante naturale, fitofarmaceutice, nutraceutice cu capacite de neutralizare a radicalilor liberi
- Antioxidanti cheie: Acid Alfa Lipoic, Coenzima Q10,
- Vitamine: Vitamina C, Vitamina E,
- Caretenoizi, (beta caroten,alfa caroten, licopen, luteina, zeaxantina)
- Compusi fenolici:
- Flavonoizi, polifenoli care confera protectie ridicata antoxidativa

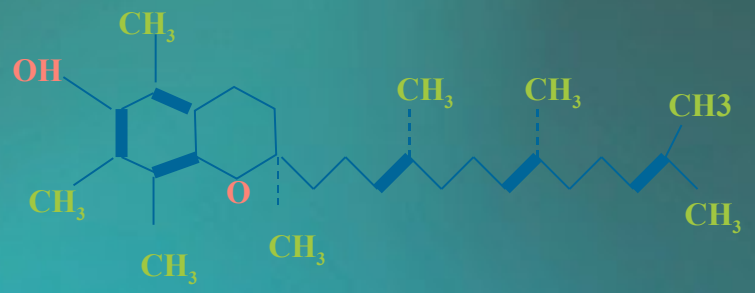


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Antioxidanti: Sursa

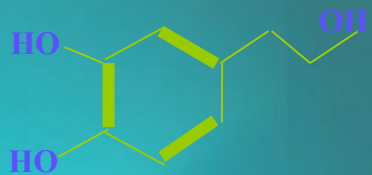
- Cel mai puternic antioxidant este:
- Hidroxitirosol extr. din Ulei de Masline, cu valoarea ORAC: Capacitatea de absorbtie a radicalului liber a oxigenului de 27000 (µmol TE/g),
- Oleuropeina din Frunze de Maslin cu cu valoarea ORAC: 13000 (µmol TE/g)
- Quercitina cu valoarea ORAC de: 12000 (µmol TE/g),
- Extract din Samburi de Struguri, cu valoarea ORAC: 8000 (µmol TE/g),



Vitamina E



Acid Alfa Lipoic

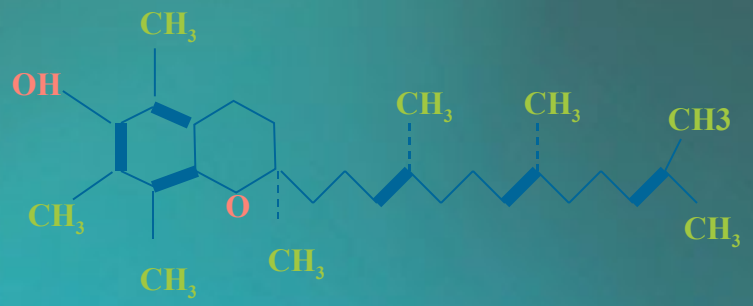


Hidroxitirosol

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Antioxidanti esentiali: Vitamina E

- Vitamina E este un important antioxidant solubil in grasime, reduce oxidarea lipoproteinelor cu densitate joasa LDL, previne initierea si progresia de ateroscleroza.



Vitamina E

Vitamina C un antioxidant foarte important

- Vitamina C protejeaza organismul de efectele radicalilor liberi cu actiune de reparatie a ADN-ului
- Cine fumeaza trebuie sa isi asigure aportul de Vitamina C, care apara organismul de efectele oxigenului reactiv-radicalii liberi, cauzat de fumat



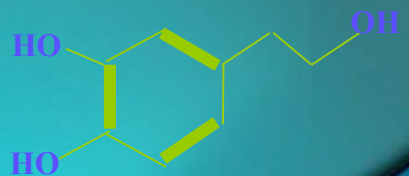
Carotenoizi: Fito-nutrienti

- Carotenoizi sint fito-nutrienti impiortanti solubili in grasime ca:
- Alfa caroten, Beta caroten, Licopene, Luteina, Zeaxantina,
- Astaxantina.
- Carotenoizi joaca un rol important ca fotoprotectia solara.
- Trebuie sa asiguram pielii noastre fotoprotectia necesara

Compusi fenolici

- Compusi fenolici cu proprietați antiseptice, antibiotice, antifungice, antivirale.
- Compusi fenolici pot fi solubil in apa sau grasime ca:
- Hidroxitirosol cel mai puternic
- antioxidant din Uleiul de Masline sau
- Capsunii sint compusi fenolici.





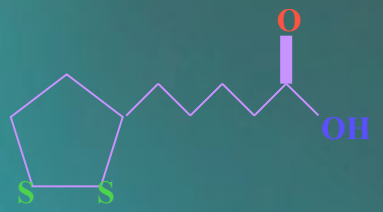
Hidroxitirosol



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Antioxidanti: Acid Alfa Lipoic

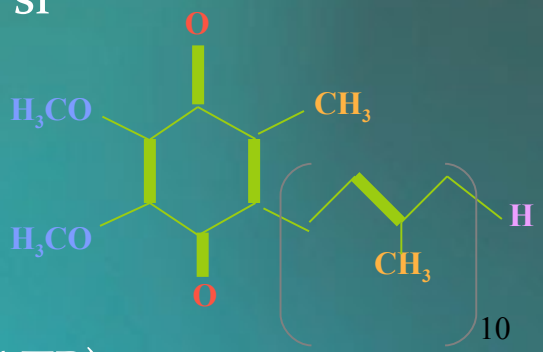
- Acid Alfa Lipoic este un puternic antioxidant de 40-60 ori ca Vitamina E
- Acid Alfa Lipoic cu actiunea de regenerare a altor antioxidanti ca:
- Glutationul oxidat la glutation redus,
- Coenzima Q10, Vitamina C, Vitamina E,
- Glutationul disulfid, Cistina in Cisteina,
- Tioredoxina oxidata la Tioredoxina redusa



Acid Alfa Lipoic

Antioxidanti: Coenzima Q10

- Coenzima Q10 ca antioxidant in mitocondria si celule cu protectie de peroxidarea lipidica,
- CoQ10 reduce oxidarea si leziunea ADN in limfocite.
- Coenzima Q10 cu activitate in mitocondria:
- Activeaza producerea de Adenozintrifosfat (ATP)
- Coenzima Q10 ca stabilizator in membrana celulara asigura permeabilitatea membranei celulare pentru ca substantele vitale sa poata intra in celula.
- Scaderea concentratiei de Coenzima Q10, pe masura imbatranirii cu pina la 60%

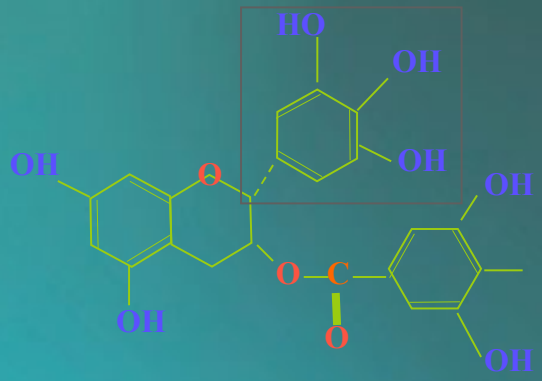


CoQ10

Flavonoizi: Polifenoli

- Flavonoizi:
- Polifenoli ca Ceai Verde Supreme cu extract de EGCG - Galatul de epigalocatechina
- Quercitina, Extract din Samburi de Struguri,
- Isoflavone din Pueraria cu actiune: Antioxidanta
- Resveratrol un polifenol din grupa fito-alexinelor.

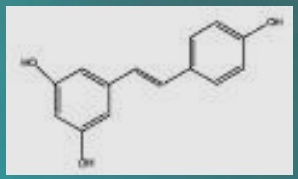
Structura fenolica



Flavonoid polifenol

RESVERATROL: Informatii generale

- **Resveratrol combate bolile pe: Calea naturala -**
- **Medicina naturala**
- Resveratrol face parte din clasa de:
- Polifenoli, subclasa Stilbene (trans-3,5,4'-trihydroxystilbene)



- Resveratrol este sintetizat din p-cumaroil CoA si malonil CoA
- Recunoscut ca antioxidant care raspunde la:
  - Stres, infectii de fungi, si radiatii ultraviolete (UV)
- Resveratrol este solubil in grasimi, compusii apar in configuratia *trans* si *cis Resveratrol*

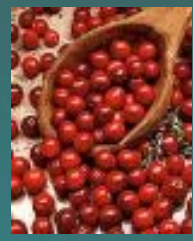
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Surse:



- Resveratrol se gaseste in struguri, vin, must de struguri, si fructe din specia *Vaccinum* afine, mure, si merisorul (cranberrie)
- Continutul de Resveratrol in strugurii rosii variaza de originea geografica si expunerea la infectii de fungii.
- Antioxidanti naturali cu efect in stabilitatea oxidativa la alimente, previne rinceziala.



Este recomandabil consumul de antioxidantii care apara organismul de efectele oxigenului reactiv radicalii liberi.



http://www.anti-aging-systeme.com/menu/produkt/Antioxidant_Antioxi