Polyphenols are a wide range of biological molecules which play a protective role in plants. They form a vast family of many thousands of molecules found in everyday foods such as chocolate, wine, grapes, onions and so on...

Polyphenols are used in the food industry as additive and in food supplements and cosmetics.

There are all sorts of polyphenols. And there are undoubtedly as many physiological actions as there are polyphenols. The physiological action of the polyphenols is determined by their chemical structure. Some have established properties while others act as hormones and may play a role in preventing bone depletion. A number of polyphenols exhibit anti-inflammatory activity.

**Polyphenols**

**Phenolic Acids**
- Example: Trans resveratrol
- Main sources: Red wine, peanuts, blackberries, grape skin.

**Stilbenes**
- Example: Chlorogenic acid
- Main sources: Aromatic herbs, coffee, prune.

**FLAVONOIDs**
- Example: Sennosides A
- Main sources: Senna leaf

**Lignans**
- Example: Seco-isolariciresinal
- Specificities: High molecular weight molecules, which are often insoluble.
- Main sources: Linseeds, unrefined cereals, fruits, tea, coffee, vegetables.

**Others**
- Example: Naringenin, Hesperetin.
- Main sources: Grapefruit, orange.

**Flavonols**
- Example: Quercitin
- Main sources: Onion, apple, red wine.

**FLAVANOLS**
- Example: Malvidin
- Main sources: Mauve.

**Polyphenols**
- Example: Oligomeric ProCyanidins (OPC)
- Main sources: French maritime pine bark and white grape seed.
- DRT extracts OPC from these 2 sources to produce oligopin® and vitaflavan®
  - oligopin® - Total polyphenols content (GPC) > 96% - OPC > 67% (GPC)
  - vitaflavan® - Total polyphenols content (GPC) > 96% - OPC > 75% (GPC).

**Biological activities:**
- Antioxidant - cardiovascular health - anti-platelet aggregation, vascular protection and circulation enhancer.

**Skin and beauty - prevention of cell ageing - protection of elastin and collagen - pigmentation problem - sun protection.**

**Others**
- Example: Phloridzin
- Main sources: Apple peel.

**Isolavones**
- Example: Genistein, Daidzein.
- Flavones: Diosmin...

**Condensed Tannins**
- Condensed Tannins are classified based on the number of polymerized epicatechin and catechin monomers.

**Oligomers**
- Oligomers are small molecules that are easily absorbed in the intestine and exert multiple biological actions.

**Polymers**
- Polymers have a higher molecular weight and are not easily absorbed. As a result, they have weak biological action. In some cases, they may even have an anti-nutritional effect inhibiting some proteins and enzymes.

That is why DRT eliminates polymers while they are present in abundance in health ingredients that have not been sufficiently purified.

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