

STILBENOIDS

Stilbenoids are a class of naturally occurring phytochemicals from the larger polyphenol family. For plants, the presence of stilbenoids in plant leaves and sapwoods is a natural response to fungal infections, as well as an indication of stress on the plant¹. Multiple groups, from the human health and dietary supplement industries to the wine and crop science fields have researched and harnessed the power of stilbenoids.



STILBENOIDS FAST FACTS

- Stilbenoids occur in an array of plants, but are most commonly found in grapes and red wines². Stilbenoid levels can vary greatly by grape variety.
- Stilbenoids have also been identified in small amounts in blueberries, bilberries, cowberries, red currant, cranberries and strawberries; however, these sources contained less than 10% of the stilbenoid amount present in grapes³.

Stilbenoids have attracted a great deal of attention in the human health field because of promising biological activities, including the prevention of chronic diseases associated with aging⁴. Numerous biological and clinical studies have demonstrated a relationship between stilbenoids and anti-diabetic, anti-inflammatory, and cancer prevention properties⁵.

Additionally, the wine industry is interested in stilbenoids because they function as antioxidants, and protect grapevines from natural stressors such as gray mold and sun exposure⁶.



STIBENOID MVP'S

- **Pterostilbene:** commonly found in blueberries and grapes, studies indicate that this compound may have anti-growth effects on tumors, as well as anti-inflammatory properties⁷.
- **Resveratrol:** a derivative of pterostilbene, baking and dark chocolate have been reported to contain small concentrations of resveratrol⁸.

ChromaDex provides a number of chemical reference standards within the stilbenoid family, including but not limited to: piceatannol, pterostilbene, resveratrol, and others. All members of the stilbenoid family can be searched on ChromaDex's online catalog at chromadex.com/chromadex-catalog/

References

1. Martinez, V., Mitjans, M., Vinardell, M.P., Chapter 22-Cytoprotective Effects of Polyphenols against Oxidative Damage, in Polyphenols in Human Health and Disease. 2014, Academic Press. p. 275-288.
2. Riviere, C., A.D. Pawlus, and J.M. Merillon, Natural stilbenoids: distribution in the plant kingdom and chemotaxonomic interest in Vitaceae. Nat Prod Rep, 2012. 29(11): p. 1317-33.
3. Lyons, M.M., et al., Resveratrol in raw and baked blueberries and bilberries. J Agric Food Chem, 2003. 51(20): p. 5867-70.
4. Pawlus, A.D., Waffo-Teguo, P., Shaver, J., Merillon, J., Stilbenoid chemistry from wine and the genus vitis, a review. J. Int.Sci. Vigne Vin, 2012. 46(2): p. 57-111.
5. Akinwumi, B.C., K.M. Bordun, and H.D. Anderson, Biological Activities of Stilbenoids. Int J Mol Sci, 2018. 19(3).
6. Beaver, J. Stilbenoids- Non-flavonoids important as phytoalexins. Includes resveratrol. 2016 [cited 2018; Available from: <http://waterhouse.ucdavis.edu/whats-in-wine/stilbenoids>.
7. Kong, Y., et al., Pterostilbene induces apoptosis and cell cycle arrest in diffuse large B-cell lymphoma cells. Sci Rep, 2016. 6: p. 37417.
8. Niesen, D.B., Hessler, C., Seeram, N.P., Beyond resveratrol: A review of natural stilbenoids identified from 2009-2013. Journal of Berry Research, 2013. 3: p. 181-196.