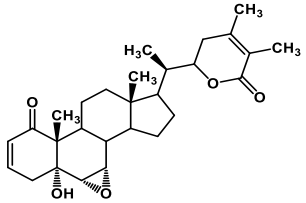
Withanolide B

Name of the Phytochemical	**Withanolide B**
Chemical Structure	
Botanical Source	Withania somnifera
CAS Number	56973-41-2
Functional Activity	• Exhibits neuroprotective, anti-arthritic, anti-aging and anti-cancer activity • Neuronal nitric oxide synthase (nNOS) inhibitor • Promotes osteogenic differentiation of hBMSCs
Key References	1. HPLC analysis of bioactive steroids from the roots of Withania somnifera. **Lat. Am. J. Pharm., 2010, 29, 468-471** 2. Hypoglycemic activity of withanolides and elicitated Withania somnifera. **Phytochemistry, 2015, 116, 283-289** 3. Withania somnifera phytochemicals confer neuroprotection by selective inhibition of nNos: An in silico study to search potent and selective inhibitors for human nNOS. **J. Theor. Comput. Chem., 2017, 16, 1750042** 4. Identification of potential inhibitors of PARP-1, a regulator of caspase-independent cell death pathway, from Withania somnifera phytochemicals for combating neurotoxicity: A structure-based in-silico study. **J. Theor. Comput. Chem., 2017, 16, 1750062** 5. Withanolide B promotes osteogenic differentiation of human bone marrow mesenchymal stem cells via ERK1/2 and Wnt/β-catenin signaling pathways. **Int Immunopharmacol. 2020, 88, 106960**

	6. Improving the inhibition of β-amyloid aggregation by withanolide and withanoside derivatives. **Int J Biol Macromol, 2021, 173:56-65** 7. Sivanandha G, et, al. Enhanced biosynthesis of withanolides by elicitation and precursor feeding in cell suspension culture of Withania somnifera (L.) Dunal in shake-flask culture and bioreactor. **PLoS One, 2014, 9, e104005** 8. Withanolide B promotes osteogenic differentiation of human bone marrow mesenchymal stem cells via ERK1/2 and Wnt/β-catenin signaling pathways. **Int Immunopharmacology, 2020, 88, 106960**