
**Abstract**

Withania somnifera popularly known as Ashwagandha is used in several indigenous drug preparations. Administration of a 75% methanolic extract of the plant was found to significantly increase the total WBC count in normal Balb/c mice and reduce the leucopenia induced by sublethal dose of gamma radiation. Treatment with *W.* somnifera was found to increase the bone marrow cellularity significantly, the percentage increase being 146.3. Treatment with *W.* somnifera had normalised the ratio of normochromatic erythrocytes and polychromatic erythrocytes in mice after the radiation exposure. Major activity of *W.* somnifera seemed to be in the stimulation of stem cell proliferation.