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**Biological activity of a fruit vegetable, "Anastasia Green", a species of sweet pepper**

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Russian green pepper (Anastasia Green) was successively extracted with hexane, acetone, methanol and 70% methanol and the extracts were further separated into a total of twenty fractions by silica gel or ODS column chromatographies. The biological activities of these extracts and fractions were compared. The extracts and fractions showed higher cytotoxic activity against two human oral tumor cell lines than against normal human gingival fibroblasts, suggesting their tumor-specific action. Several fractions [H3, H4, A4] reversed the multidrug resistant gene (MDR1) against L5178 mouse T-cell lymphoma more effectively than verapamil (positive control). All extracts and fractions showed no anti-human immunodeficiency virus (HIV) nor anti-*Helicobacter pylori* activity. These data suggest the medicinal importance of an Anastasia Green extract.