META

Practical use of herb mixture preparations as functional foods for hemato-immunomodulation and cancer therapy assistance

Jo, Sung Kee; Jung, U Hee; Park, Hae Ran and others

Korea Atomic Energy Research Institute, Taejon (Korea, Republic of)

Abstract

[en] This research project was intended to verify biological efficacy and to develop optimal manufacturing process of a novel herbal preparation (HemoHIM), and finally to practicalize it as a functional food for hemato-immunomodulation and cancer therapy assistance. HemoHIM alleviated the suppression of immune and hematopoietic functions in irradiated or anticancer drug(cyclophosphamide)-treated mice, enhanced the anticancer immune activity, and reduced the biological damage by oxidative stress. From these results, the optical application condition of HemoHIM was established. Then, the biologically active components, polysaccharide fraction for immune and hematopoiesis, and 5 antioxidant compounds, were isolated and identified. Based on these results, the standards for the active component contents were established and the optimal manufacturing process was developed. The contents of heavy metals and pesticides were analyzed by US FDA and the pilot product was shown to contain no heavy metals and pesticides. Also the pilot product showed no biological toxicity in the animal toxicity test including the long-term administration, teratogenicity, and local toxicity test. These results confirmed the safety of HemoHIM as a food. Finally, the human efficacy was evaluated. In result, the pilot product alleviated the suppression of immune cell numbers in cancer patients who received the radiation or chemotherapy, and enhanced the immune cell numbers and functions in the immune-depressed sub-healthy volunteers. Based on these results, KAERI and Kolmar Korea, Co. founded the joint venture company, SunBioTech Co. and two herbal preparation products (HemoHIM and HemoTonic) were partially commercialized. This herbal preparation is expected to be applied as a heath functional food for immune and hematopoiesis modulation, and also as a general medicine for the alleviation of immune and hematopoiesis suppression during cancer treatments in the future through further study.

Primary Subject

RADIATION, THERMAL, AND OTHER ENVIRONMENTAL POLLUTANT

EFFECTS ON LIVING ORGANISMS AND BIOLOGICAL MATERIALS (S63)

Secondary Subject

RADIOLOGY AND NUCLEAR MEDICINE (S62)

Source

Jan 2006; 168 p; Available from KAERI; 22 refs, 54 figs, 50 tabs; This record replaces 37079098

Record Type

Report

Report Number

KAERI/RR--2607/2004

Country of publication

Korea, Republic of

Descriptors (DEI)

CHEMOTHERAPY, FOOD, HERBS, IMMUNOLOGY, NEOPLASMS, QUALITY CONTROL, RADIOTHERAPY

Descriptors (DEC)

CONTROL, DISEASES, MEDICINE, NUCLEAR MEDICINE, PLANTS, RADIOLOGY, THERAPY

Publication Year

2006

Language

Korean

Reference Number

46037634

INIS Volume

46

INIS Issue

15

- Export - PDF