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Michael K. Turk

Acting Commissioner of Patents and Trademarks

Sandra Z. Morton
Attest



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United States Patent [19]

Gold et al.

[11] Patent Number: 5,230,902

[45] Date of Patent: Jul. 27, 1993

- [54] UNDENATURED WHEY PROTEIN
CONCENTRATE TO IMPROVE ACTIVE
SYSTEMIC HUMORAL IMMUNE
RESPONSE
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- [73] Assignee: Immunotec Research Corporation,
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- [21] Appl. No.: 563,794
- [22] Filed: Aug. 3, 1990

Related U.S. Application Data

- [63] Continuation of Ser. No. 289,971, Dec. 23, 1988, aban-
doned, which is a continuation-in-part of Ser. No.
188,271, Apr. 27, 1988, abandoned.

- [51] Int. Cl.³ A61K 35/20
- [52] U.S. Cl. 424/535; 514/2;
530/365; 530/833
- [58] Field of Search 514/2, 21, 251, 276,
514/885; 530/365, 833; 424/535; 426/72

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[57] ABSTRACT

This invention provides a method of improving the
humoral immune response or increasing the concentra-
tion levels of glutathione in mammals, which comprises
administering orally to a mammal a therapeutically or a
prophylactically effective amount of undenatured whey
protein concentrate which has a biological activity
based on the overall amino acid and associated small
peptides pattern resulting from the contribution of all its
protein components. A method for improving the hu-
moral immune response in mammals also is disclosed
which comprises administering orally to a mammal the
combination of a vitamin supplement containing vita-
min B₂ in an amount in excess of minimum daily require-
ments and an effective amount of undenatured whey
protein concentrate. This invention further provides a
dietary supplement for a mammal which comprises an
effective amount of vitamin B₁ and B₂ and a therapeuti-
cally or prophylactically effective amount of whey
protein supplement.

16 Claims, 9 Drawing Sheets