

## DISCUSSION

Dopamine is effective in the treatment of experimental B-16 melanoma *in vivo*. Furthermore, it demonstrates a pattern of inhibition of macromolecule biosynthesis in S-91 melanoma cells that is very similar to that caused by L-dopa methyl ester thereby suggesting a similar mechanism of action. Tyramine, however, is completely inactive both *in vivo* and *in vitro*, a result that might be attributed to its inability to form a quinone.

DNA polymerase is an enzyme that has been shown to be sensitive to sulfhydryl reagents [5]. Graham et al using a quinone isolated from the mushroom *Agaricus bisporus* and structurally similar to L-dopa and dopamine has shown significant inhibitory effect on mammalian DNA polymerase [6,7]. We have postulated therefore that these novel antitumor agents act through initial conversion to a quinone and subsequent sulfhydryl group scavenging. The ability of L-dopa to function as a sulfhydryl reagent and combine with cysteine to yield 2-S- and 5-S-cysteinyl-dopa is well known [8].

Dopamine is a member of a novel class of antitumor agents possessing the ortho-quinol moiety. It is intriguing to speculate that this phenomenon described might also have broader biologic implications e.g., in the role of dopamine in the central nervous system. In view of the extensive experience, with dopamine, in man, a prompt clinical evaluation is currently un-

derway in order to determine its usefulness in neoplasms of neural crest origin.

## REFERENCES

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## Announcement

An Occupational Dermatology Symposium will be held March 26-28, 1979, at the University of California Hospital, San Francisco. This course will succinctly summarize principles and practices of occupational dermatology, stressing the latest relevant advances. The faculty of more than 50 are international in scope. Presentations are aimed at physicians, nurses, and allied health scientists involved in the prevention and treatment of occupational skin disease. Workshops and field trips are on an optional basis. The course is jointly sponsored by the I.C.D.R.A., N.A.C.D.A., N.I.O.S.H., and the University of California. For information, write or call, Extended Programs in Medical Education, University of California Hospital, San Francisco, California, 94143, U.S.A. (telephone (415) 666-4251).