potency per unit weight for AVP(3,15).

Summary. Both arginine and lysine vasopressin have been obtained in a high degree of purity by means of chromatography on carboxymethyl cellulose using ammonium acetate as a volatile buffer and differential elution gradients. Conditions for the resolution of LVP and AVP by chromatography on this same exchanger are described. By combining efficient recovery of activity, high flow rates for the chromatography, and rapid removal of buffers by lyophilization, a simple means of purifying vasopressin is proposed.

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Effect of a Histamine Releaser (48/80) upon Development of Walker Tumor.* (23543)

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The possibility of depleting a tissue of its histamine content by repeated injection of compound 48/80(1) suggests a method by which to evaluate the role of histamine in tissue injury. This method was first used in our studies on inflammation. In rats treated with compound 48/80 or various histamine releasers the tissue responsiveness is either enhanced or decreased, depending upon the nature of the irritant utilized(2).

In the course of our studies on the relationship between inflammation and cancer we thought it would be interesting to investigate the influence of compound 48/80 upon development of a transplanted tumor. The present experiments suggest that this histamine releaser, especially when given as pretreatment, is particularly effective in enhancing the development rate of Walker tumor.

Materials and methods. Three experimental series were made with female Sprague-Dawley rats of an average initial body-weight of 60 g (range 58 to 64 g). It was planned to determine whether the development of the tumor would be influenced by 48/80‡ administered before transplantation (Exp. 1), during tumor-growth (Exp. 2), and after the tumor is well developed (Exp. 3). In each experiment the compound was injected subcutaneously, twice daily, for 8 days; doses

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TABLE I. Mode of Treatment with 48/80.

Day	Dose of 48/80 (μg) A.M.	P.M.
1		200
2	200	"
3	"	300
4	300	"
5	400	400
6	"	500
7	500	"
8	"	"

were increased progressively as outlined in Table I. Throughout the experiments, the rats were maintained on "Purina Fox Chow" and received additionally some "Pablum." This dietary supplement was given to increase the animals' appetite, and, thereby, to lessen the possibility of gastric ulcers which may occur during long term 48/80 administration. A suspension of Walker Carcinoma 256 was prepared by crushing only the living tissue of an 8-day-old tumor in a glass homogenizer, using 1 g of tumor to 5 ml of physiological saline. The animals were lightly anesthetized with ether and each received 0.2 ml of the suspension underneath the skin of the central lumbar region. The transplantation was carried out under sterile conditions. To ascertain that distribution was as even as possible, cells from a single donor were used and the animals of all experiments were injected at the same time. The rats were sacrificed with chloroform on the 15th day in Exp. 1 and 3 and on the 8th day in Exp. 2. The tumor was dissected and fixed in Susa solution for subsequent weighing and histologic studies.

Results. Table II summarizes the results of the 3 experiments. The absolute tumor weight values reveal a definite growth promoting effect of 48/80 in all the experimental arrangements used. Gross inspection of animals in Exp. 1 showed differences in tumor sizes, already detectable on the fourth day following the transplantation. In Exp. 2 and 3 appraisal was more difficult because of the tendency of the tumor to form fluid underneath the skin, thus making its delimitation somewhat irregular. Once the neoplastic tissue had been carefully dissected and weighed, the sizes became more uniform.

For statistical analysis the tumor weight has been expressed per 100 g of body weight. On this basis, only pretreatment with 48/80 (Exp. 1) seems effective in increasing the weight of the tumor. The number of animals used throughout the experimental series was small, and it is thought that had a larger number been used, significant results may also have been obtained in Exp. 2 and 3.

At autopsy, no important organ change was found except a slight adrenal hypertrophy which was uniform in all groups. Upon histologic examination, tumors of 48/80 treated rats were essentially comparable to those of untreated animals. Active neoplastic growth and infiltration of the skin with tumor cells were observed; in no case was there any appreciable degree of necrosis that might have accounted for the differences in tumor weight.

Discussion. Previous studies(3,4) in which 48/80 was given at the time of transplantation, did not reveal any appreciable effect upon Walker tumor. Pretreatment, on the other hand, shows a definite influence on the course of the tumor growth.

TABLE II. Effect of Compound 48/80 upon Development of Walker Tumor.

Exp. No.	Duration (days)	48/80 treatment relative to transplantation	Tumor absolute (mg)	Tumor/100 g body wt (mg)	Body gain (mg)	Mortality
1	15	—	2607 ± 420	1973 ± 308 (P <.02)	74 ± 3	0/8
		Before	4450 ± 588	3812 ± 593	60 ± 4	1/8
2	8	—	2498 ± 545	2679 ± 603 (P <.1)	33 ± 12	0/8
		Simultaneously	3277 ± 437	4419 ± 714	15 ± 3	1/8
3	15	—	5524 ± 1593	4522 ± 970 (P <.4)	72 ± 7	0/8
		After	10183 ± 1710	6017 ± 1363	72 ± 5	1/8

Histamine has been reported to exert an inhibitory effect on the growth of transplanted tumors(5). The present results are in accord with this observation.

Since tumor growth was more favorable in histamine depleted animals, it is tempting to assume that tissue reactivity or inflammatory potential regulates tumorigenesis. In order to determine to what extent this hypothesis could further be verified, experiments are now underway to investigate whether compound 48/80 might influence the rate of tumor induction in rats.

Summary. The growth of Walker Tumor 256 is increased in rats receiving compound 48/80 in progressive dosage. This is significant only in animals pretreated with the histamine releaser.

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A DNA-Reacting Factor in Serum of a Patient with Lupus Erythematosus Diffusus.* (23544)

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The question whether DNA can elicit specific antibodies in experimental animals is still controversial, although some positive evidence has been presented(1). Our own experiments have been inconclusive(2). Because of the possibility that DNA might behave as an hapten, it was nevertheless decided to test whether DNA preparations would react against human pathological sera. Our attention was mainly directed towards Lupus Erythematosus for: 1) the nucleolysis and subsequent nucleophagocytosis typical of this condition, liberate and possibly make accessible to immunological processes an abnormally large amount of nuclear material; 2) these patients are exceptionally apt to produce auto and iso-antibodies; 3) the immunological nature of the L.E. phenomenon is supported by some well established observations.

The following sera have been tested against DNA: a) 9 from Lupus Erythematosus diffusus, b) 60 from normals, c) 15 from luetic patients, d) 30 from miscellaneous diseases showing high level of gamma globulins, e) 7 from collagenous diseases (1 Liebman-Sachs endocarditis, 3 cutaneous Lupus Erythematosus, 1 Schoenlein-Henoch, 1 macroglobulinaemia). A definite positive reaction on complement fixation and on precipitin test was observed only with the serum of a patient with acute, untreated, Lupus Erythematosus diffusus (serum E-2); all other sera did not react. A short account of the observations herein presented has been previously published(3).

Materials and methods. DNA was obtained from i) normal human leucocytes, ii) leucocytes from human lymphatic leukemia, iii) leucocytes from human myeloid leukemia, iv) calf thymus, v) rabbit spleen. DNA was extracted according to the Kay, Simmons, Dounce technic as modified by Chargaff(4), using 10^{-3} M NaCl as the solvent wherever water was prescribed (Cavalieri *et al.*, 1956). Moreover the crude sodium nucleate was only washed with 95% ethanol. The fibrous DNA was stored at -20°C. The chemical analysis *i.e.* % H_2O, N, P(5), the u.v. absorp-

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