indicate that shrews as a group may have a higher basal metabolism than other mammals. Further, since *Sorex* represents an extreme in size, it is entirely possible that it will deviate from the function which relates other mammals.

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The Milk Factor in Blood

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Bittner's (*1*) discovery that a mammary tumor-inciting agent is present in the milk of high tumor strain mice ushered in a series of researches aimed at the eventual isolation and characterization of this extrachromosomal factor. As a preliminary to isolation experiments we undertook the investigation of mouse blood with special attention to the serum component.

TABLE 1*

Fraction tested	No. of mice	No. of tumors	
Whole blood	20	1	5% ± 4.87%. Age, 11.8 mos.
Washed red cells	13	0	
Hemolyzed and dehydrated red cells	4	0	
Whole serum	47	0	
Fat-free whole serum	16	0	
Serum globulins	83	0	
Serum albumins	21	0	
Neutral fats	14	0	
Total	218	1	Mean age at death of 217 tumor-free mice, 24.4 ± .07 mos. S.D., 1.18 ± .05 mos.

* Only animals surviving six months or more appear in this table.

Woolley (*3, 4*) had found the agent to be present in the whole blood of his strains, in concentrations suggestively similar to its concentration in milk.

In our experiments whole blood was obtained by heart puncture from 100 mature etherized female Paris mice, whose tumor incidence in our laboratory has been 92.9 ± 1.84 per cent in bred female controls. All blood samples were pooled, and serum and serum fractions were prepared in the appropriate manner from this pool. Single doses of 0.2 cc. of whole blood or serum, or serum fraction equivalent to 0.2 cc. serum, were injected subcutaneously into young female C57 test mice, a strain in which there have been no spontaneous mammary carcinomata during the past five years in our laboratory. This strain has proved highly susceptible to the milk factor, developing 76.1 ± 4.34 per cent carcinoma of the breast in females by foster nursing (*2*). The injected mice were subsequently bred and allowed to bring up their young normally under our standard control conditions. The final results appear in Table 1.

The fact that no tumors appeared in the series treated with whole serum is a definite negative answer to any hope of using serum for the isolation of the agent. All serum fractions gave results consistent with those of whole serum. The appearance of one tumor in 20 mice treated with whole blood is probably significant, but the incidence shown is less than that obtained by Woolley with whole blood.

Whole blood and blood fractions do not appear to be a rich source of the milk factor.

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Colistatin: A New Antibiotic Substance With Chemotherapeutic Activity

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Among antibiotic substances inhibiting growth of gram-negative bacteria, streptomycin, produced by *Streptomyces griseus* (*6*), appears to be particularly interesting at the present time. It was observed by us that some strains of aerobic sporulating bacilli isolated from soil, while growing upon the surface of nutrient agar containing tryptone and glucose, produce a well-diffusible antibiotic substance inhibiting growth of staphylococci as well as of *Bacterium coli*. While growing upon the liquid medium, these bacteria form heavy surface pellicles, and the antibiotic diffuses into the nutrient broth. However, this antibiotic substance is thermolabile and is strongly inactivated by boiling the culture liquid in the water bath for 15 minutes.

After detailed examination of a large number of cultures isolated from chernozem soils, an aerobic sporulating bacillus was found by us which produces a thermostable antibiotic substance, inhibiting the growth of *Staphylococcus aureus* as well as of *B. coli*. The activity of this substance is not decreased by boiling the culture fluid for 15 minutes. Because of its