2% of the original titre were left for the homologous strain. The nonspecific antigens of *S. lexington* are 1,5...

Summary: A new *Salmonella* type, *Salmonella lexington,* is described. It was isolated from the mesenteric lymph glands of apparently normal hogs. The organism is represented by the antigenic formula III X XXVI:z_{10}:1,5...

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Mineral Distribution in Some Nerve Cells and Fibers.*

GORDON H. SCOTT

From the Department of Anatomy, Washington University School of Medicine, St. Louis.

It is known from examination of many types of tissue that Mg and Ca, as revealed by the electron microscope, is located in areas which show white ash following microincineration. In nerve tissue certain difficulties have hampered a direct study of Ca and Mg by means of the electron microscope. Some of the findings in incinerated sections of frog sciatic and sympathetic ganglia are believed to be of significance although we have not been able to identify the salts as clearly as is desirable.

When sections of frozen and dehydrated (Scott and Packer[1]) frog sciatic are carefully incinerated and examined by dark field (Scott[2]) the large myelinated fibers at the periphery of the nerve leave residues of white ash probably consisting largely of Ca and Mg. The ash is clearly the remains of the myelin sheath as it corresponds almost exactly with stained preparations of the same nerve taken a few levels either above or below. The point to emphasize, however, is that there is no visible residue of any sort in the tissue spaces surrounding the nerve fibers.

In sharp contrast to plentiful mineral in the nerve fibers and little if any in the tissue space is the picture obtained when sympathetic ganglia are incinerated following the same treatment. The sympathetic ganglion cells are recognizable by their residue. Nuclear, nucleolar and Nissl substance ash is dense and of the variety associated with the presence of Ca and Mg. There is as a general rule

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1 Scott and Packer, *Anat. Rec.*, 1939, **74**, 17, 31.

2 Scott, G. H., *Am. J. Anat.*, 1933, **53**, 243.

a wide band, varying from an eighth to a sixth of the cell diameter, of dense white ash concentrated at the periphery of the cell. The tissue spaces immediately about the ganglion cells are filled with mineral residue not unlike, in quality and quantity, that seen in the neurones.

It seems evident from these observations that like conditions of surrounding medium do not obtain in nerve fibers of the frog sciatic and in the cells of the sympathetic ganglia of the same animal.

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Direct Action of Estrone on the Mammary Gland.

WM. R. LYONS AND Y. SAKO

From the Division of Anatomy, University of California Medical School.

Within the past decade, the hormonal control of mammary growth has been greatly clarified due to the availability of: (1) pure estrogenic compounds which by themselves cause growth of the nipple and ducts as well as a slight degree of alveolar development, (2) progesterone which in proper combination with estrone (or other estrins) causes complete lobular development such as occurs in pregnancy, and (3) mammotropin, the pituitary lactogenic hormone which causes functional growth and lactation in the alveoli or milk-secreting units in glands developed by estrin or estrin-progestin.

[According to some investigators, the mammary glands of hypophysectomized animals do not respond as well (or at all) to estrin, and for this reason, Turner and co-workers[1, 2] have proposed that the sex hormones merely stimulate the pituitary which in turn secretes 2 mammary-stimulating substances, mammogen I which induces duct development and mammogen II causing lobule-alveolar growth.] These investigators have extracted a fat-soluble substance from the pituitary, which they identify with mammogen I because it causes mammary duct development in male and female mice. They[3] also obtained lobule-alveolar growth in castrated female mice by injecting fresh pituitaries from pregnant cattle. Because this material caused alveolar proliferation over and above the duct development induced by their extracts these investigators have postulated a second mammogen.

1 Lewis, A. A., Turner, C. W., and Gomez, E. T., *Endocrinol.*, 1939, **24**, 157.

2 Lewis, A. A., and Turner, C. W., *Mo. Agr. Exp. Sta. Bul.* 182, 1939.

3 Mixner, J. P., Lewis, A. A., and Turner, C. W., *Anat. Rec.*, 1940, Suppl., **76**, 43.