Table 1. Ca^{45} excretion into the bile of rabbits.

Animals**	(1)		(2)		(3)	
Time (min.)	Counts (per min.)	Sp. ac. % ***	Counts	Sp. ac. %	Counts	Sp. ac. %
0-60	3390	3342	6489	6980	4314	5380
61-120	2395	3304	4197	6120	2844	4920
121-180	1615	2602	2923	5130	2248	3228
181-240	717	1638	2276	4160	3022	3105
Total		0.083		0.179		0.140

** (1), (2) control (3) 200 mg $CaCl_2$ injected one hour after the Ca^{45} adm.

*** per cent of the administration

Table 2. Urinary excretion of Ca^{45} for 4 hours after the administration.

Animals ****	counts (per min.)	sp. ac.	% ****
(1)	584	1052	0.0062
(2)	175	1202	0.0019
(3)	3000	421	0.0339

**** The same as in Table 1.

The specific activity of Ca^{45} in the bile at the fourth hour amounted to the same value as that in serum at that time. The urinary excretion of Ca^{45} for 4 hours showed individual disparity, but the specific activity of the urinary isotopes was uniform in control animals. The intravenous injection of 200 mg inactive $CaCl_2$ caused the notable increase of the urinary calcium and the decrease of the specific activity of the urinary Ca^{45}. (Table 2).

* The radioisotopes were distributed by the A. E. C. of U. S. A.

---

22. On the Radioactive Sulphur S^{35}* Uptake by the Liver and Other Tissues

Katashi Inouye, Tadashi Miyake, Haruto Uchino and *Shigeo Kariyone*

(K. Inouye Laboratory)

The radioative sulphur S^{35} [BaS in $Ba(OH)_2$] solution was injected subcutaneously into male mice in various condition, and the S^{35} uptake by liver, kidney and muscle tissues of these animals was examined. The administered S^{35} solution was that of pH 5.6, and the activity of the dose for each animal was 2.8-4.0 μc. The experimental liver damage was done by the subcutaneous injection of CCl_4 at 24 hours before the S^{35} administration. The methionine treatment was performed by the simultaneous administration of 40 mg l-methionine with the S^{35} solution. The animals were sacrified at each period of one, two and three hours after the S^{35} adminis4tration, and the total S^{35} cotent of the tissues was measured by the G-M counter. The carriers of the uniform weight were used, in order to avoid the possible errors due to the self absor-

ption of the weak radiation emitted from the isotopes. The tissue homogenates were digested in Pirie's reagent, and S^{35} therein was precipitated as active barium sulphate with inactive $BaSO_4$ of 10 mg per square centimeter.

Amouets of S^{35} per unit weight of tissues showed their maximam value at 2 hours after the administration. The S^{35} uptake by the tissuses in animals with the experimental liver damage was much greater than that in control animals. (Table 1.)

Table 1. Counts per minute per one gram tissue, when the counts of one-hundredth of the administered dose were 335 per minute.

Time after admin.		one hour	two hours	three hours
Liver	A **	155	317	166
	B	370	455	260
Kidney	A	294	827	311
	B	622	1198	305

** A: control animal, B: animals with the experimental liver damage.

The S^{35} uptake by the liver and the kidney of the animals treated with methionine was much less than that in control animals. The S^{35} uptake by the nuscle tissues was minute.

* The radioisotopes were distributed from the A. E. C. of U. S. A.