fractionated into four fractions by Schneider's Method.

Specific activities in each fraction were counted by Liquid Scintillation Counter.

The results were as follows.

1) Acidsoluble fractions:

Incorporation into organs most increased.

2) Nucleic acids fractions:

No definite changes in each group were observed.

Fetuses, weighing 235–680 gr, were devided according to the period of pregnancy into 20–26 weeks.

Incorporation into livers most increased except case one.

Analyses of Transcobalamins from Various Animals Using ^{57}Co-Labeled Cyanocobalamin

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Serum B_{12} (B_{12}) binding protein and B_{12} binder in leucocytes are called as transcobalamin (TC) and leucocyte binder (LB), respectively. Due to the extreme low contents of these proteins in serum and leucocyte, most of the work pertaining to B_{12}-binders were carried out using radioactive B_{12} bound to TC and LB as a traer. In this report, TC and LB from chicken, rat, cow, dog, and human were analyzed by gel filtration on Sephadex G-150 or Sepharose 6B, and paper electrophoresis followed by autoradiography. Isoelectric fractionation (IEF) was performed on human TC and LB. Radioactive cyanocobalamin (100 μCi/μg) was obtained from RCC (Amersham, England). Radioactivity was determined by the well type scintillation counter equipped with a spectrometer. Three TCs were separated by gel filtration except chicken in which single binder was found, and named as TC-0, -1, -2 according to Hom et al. Molecular sizes of TC and LB were calculated by Determann's method with the aid of the computer (Olivetti Programma 101), and listed as follows.

	TC-0	TC-1	TC-2	LB
Chiken	—	11×10^4	—	11×10^4
Rat	$>30\times10^4$	20×10^4	35000	35000
Bovine	$>30\times10^4$	11×10^4	34000	$>30\times10^4$, 11×10^4
Canine	$>30\times10^4$	13×10^4	34000	13×10^4
Human	80×10^4	12×10^4	35000	12×10^4

Electrophoretic pattern of TC and LB revealed one band on autoradiograms except human TC-1. Human TC-1 was divided into two bands at α_1 and α_2 region. IEF pattern of TC-1 revealed also heterogeneity and two peaks emerged at the acidic portion of the column. IEF pattern of LB was identical with TC-1. Mobility of human TC-2 was α_2 and pI was 6.75. Electrophoretic mobility of human TC-O coincided to α_2 globulin. Based upon the fact that, LB has same molecular size and same pattern on IEF to TC-1, and significant correlation was found between WBC and amount of TC-1 in CML patient, it is concluded that a significant portion of TC-1 is undoubtedly derived from wbs. Multiplicity of TCs found in different species indicated that some future work is needed to elucidate the origin of TCs found in serum.