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1. Nuclear oxalate uptake of rat and human kidney was pH-dependent showing two pH optima, one at acidic pH 4.5 and the other one at alkaline pH 7.4. The uptake was also time-dependent attaining an equilibrium at about 3 minutes.

2. Nuclear oxalate/histone oxalate uptake was sensitive to 1mM DIDS and was promoted by nucleotides - ATP and ADP (1mM). NaCl (1mM) did not affect its uptake.

3. Oxalate binding activity was located in the nuclear envelope with a pH optima at 7.4. The oxalate binding activity was lost on treatment with trypsin.

4. In the nuclear envelope, the oxalate binding activity was localized in the nuclear pore complex with a high specific activity of 144 and 220 p moles for rat and human respectively while nuclear lamina showed no oxalate binding activity on filter binding assay.

5. Complete extraction of nuclear pore complex oxalate binding protein was possible with high salt and detergent - 5% Triton X-100 and 0.3M KCl only.

6. Elution profile of rat and human kidney nuclear pore complex oxalate binding protein on DEAE - Sephadex A-50 column showed a protein with overlapping radioactive peak when eluted with phosphate buffer itself.
7. Rat and human nuclear pore complex oxalate binding protein had a specific activity of 500 and 625 p moles/mg protein respectively with 4-fold purity each.

8. The molecular weight of human kidney nuclear pore complex oxalate binding protein was determined to be 205 kD.

9. The purified protein was saturable at 2pM oxalate concentration showing a Kd of 2.98pM and Bmax of 197 p moles/mg protein by equilibrium dialysis method.

10. When the PBC serum containing autoantibodies against the nuclear pore complex protein, gp210 was incubated with the isolated 205 kD protein, there was antigen - antibody complex suggesting that this protein was similar to gp210.

11. After the formation of the antigen - antibody complex, the antigen had no oxalate binding activity and nuclear uptake of oxalate and oxalate bound histone.

12. About 1-10μg of 205 kD protein was found to inhibit 40-87% of in vitro calcium oxalate crystal nucleation and aggregation.

13. In permeabilized VERO cells, the nuclear uptake of natural karyophilic oxalate binding (histone) / artificial karyophilic (NLS-BSA) and non-karyophilic protein was found to be ATP-dependent; signal-mediated and partially dependent on cytosolic protein factors.
14. In the cultured VERO cells, lower concentrations of oxalate proliferated the cells while higher concentration of oxalate reduced the cell density. Oxalate was found to induce the expression of the pore complex oxalate binding protein in mitosis and the expression was found to be specific as its structural analogues did not induce the expression of this protein.

15. In hyperoxaluric condition, the quantity of serum antigen and its autoantibody, tissue antigen and excretion of antigen was increased. Immunofluorescence staining of cryo-sections also showed much higher staining in hyperoxaluric patient's kidney biopsy samples.

16. Increased concentration of serum gp210 alone with no autoantibody was observed in ARF while in SLE with NS both antigen and antibody were seen. Immunofluorescence staining of cryo-sections also showed much higher staining of gp210.