## Immunohistochemical observation of catecholamine-synthesizing enzymes and calcitonin in ultimobranchial body, carotid body and adrenal gland of quail and crucian carp

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Ultimobranchial body (UBB) was separated from carotid body in quail, while associated with carotid body in grass-parrot. UBB showed calcitonin (Cal)-positive and TH-negative reaction in quail and crucian carp, but both Cal- and TH-positive in grass-parrot. The UBB of the crucian carp was located in the vicinity of the exterior region of the ventral esophagus, and showed Cal-positive and TH-negative reaction. They formed a lobule which had a follicular or cord-like arrangement.

TH-positive, but DBH- and PNMT-negative dopamine cells were found in carotid body of quail like grass-parrot and dog.

In adrenal gland, TH-positive, DBH-positive, and PNMT-negative or positive chromaffin cells were observed in quail as in grass-parrot and dog. Crucian carp showed TH- and DBH-positive chromaffin cells. These chromaffin cells were mixed with cortical cells in quail and crucian carp. Especially in crucian carp, they had long processes to extend to blood vessels of the head kidney.

## Immunohistochemical localization of prostatic acid phosphatase (P.A.P.) in prostatic tissue.

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Immunoperoxidase method was carried out to demonstrate the localizations of P.A.P. in prostatic tissue. For comparison, Gomori method was also investigated in the same tissue. Prostatic tissues were obtained by cold punch biopsy or open surgery, fixed in 10% buffered formalin or 0.5% gulu-taraldehyde Zanboni solution, then dehydrated in alchohol or acetone, and embedded in paraffin. Anti-P.A.P. serum was obtained by rabbit injected P.A.P. from human ejaculate and absorbed by female serum, human ejaculate ajusted to pH8.6 and prostatic powder to pH9.2, 4-Cl-1 naphtol was used as subutrate for horseradish-peroxidase. Positive materials were obserbed in the cytoplasm of both prostatic hyper-trophoid cell and cancer cell. In the cancer cell, P.A.P. tended to irregular distributions in accordance with the histological grading. Gomori method showed similar patterns.

## Endodermal Sinus Tumor of Human Testicular Tumor : Immunohistochemical Localization of Alpha-Fetoprotein (AFP)

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In the present investigation, AFP producing elements of human testicular tumores were observed by immunoperoxidase method.

Materials and Methods: 23 adult testicular tumors fixed with 10% buffered formalin and embedded in paraffin were used. All cases were pathologically diagnosed as embryonal carcinoma and teratocarcinoma according to the classification of Dixon and Moore. AFP in the tumor tissues were stained by indirect immunoperoxidase technique using anti-AFP serum pretreated hCG and human testicular seminoma powder. 3,3'-diaminobenzidine and 4-Cl-1 naphtol were used as substrates for horseradish peroxidase. Histological patterns of endodermal sinus tumor were classified according to the Talerman's criteria.

Results and Conclusion: Immunohistochemical localizations of AFP were observed all cases diagnosed as embryonal carcinoma and teratocarcinoma. We would like to stress the presence of AFP producing elements in the criteria of human testicular neoplasm.

## A comparative study of immunohistochemical and electron spin responce spectra in DAB hepatoma

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The metalloproteins in the liver of DAB-treated rats were analyzed by means of immunohistochemical and electron spin resonance(ESR) techniques in comparison with normal or carbon tetrachloride damaged livers, immunohistological method has revealed the intensive disribution of serum ceruloplasmin and transferrin in DAB induced tumor tissues. Concomitantly, a remarkable increase was also noted in the ESR signals of both cupric ion and non-hem ferric ion of rhombic of high-spin form, which were ascribed of these metalloproteins.

Their biological implications in malignancy were discussed.