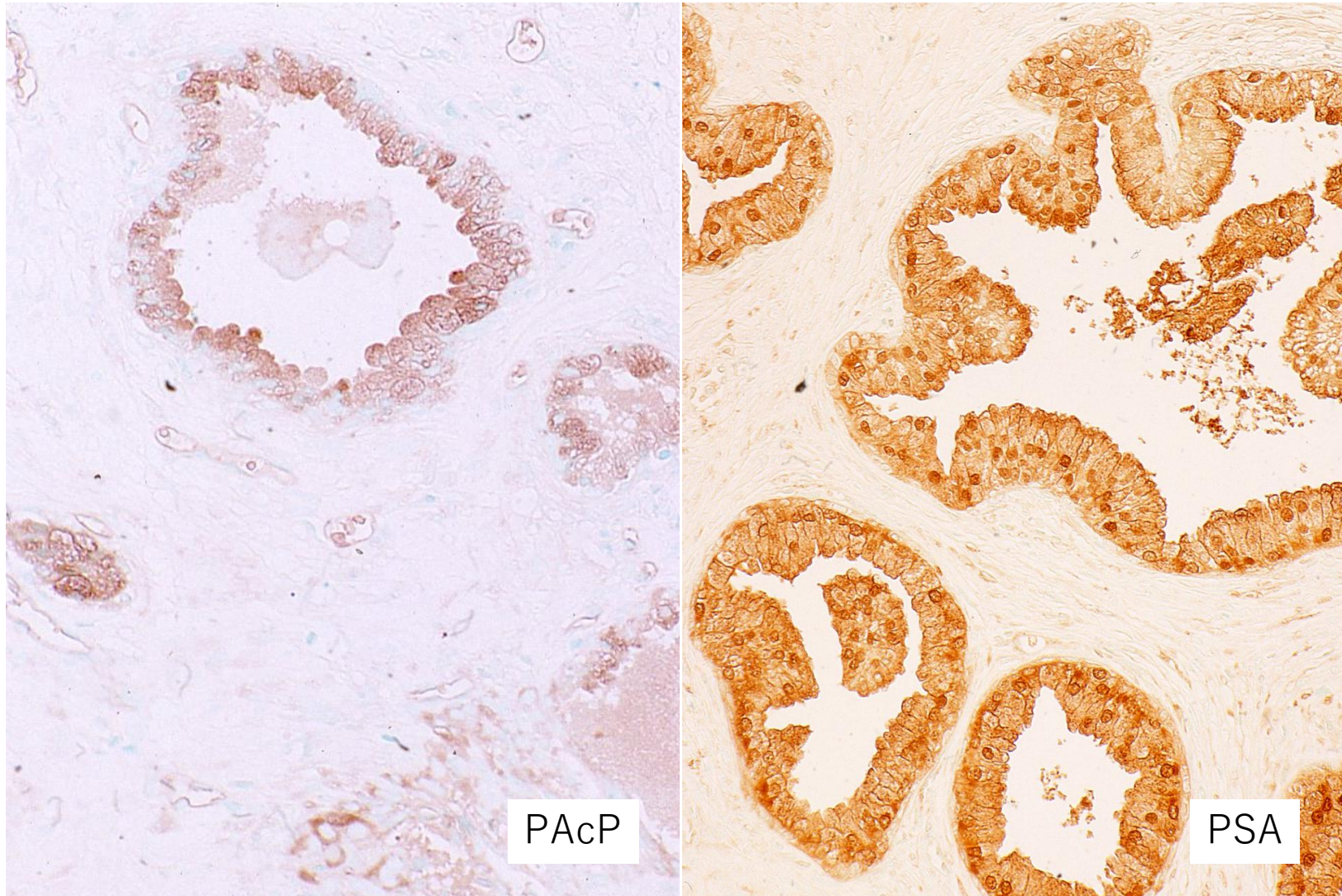


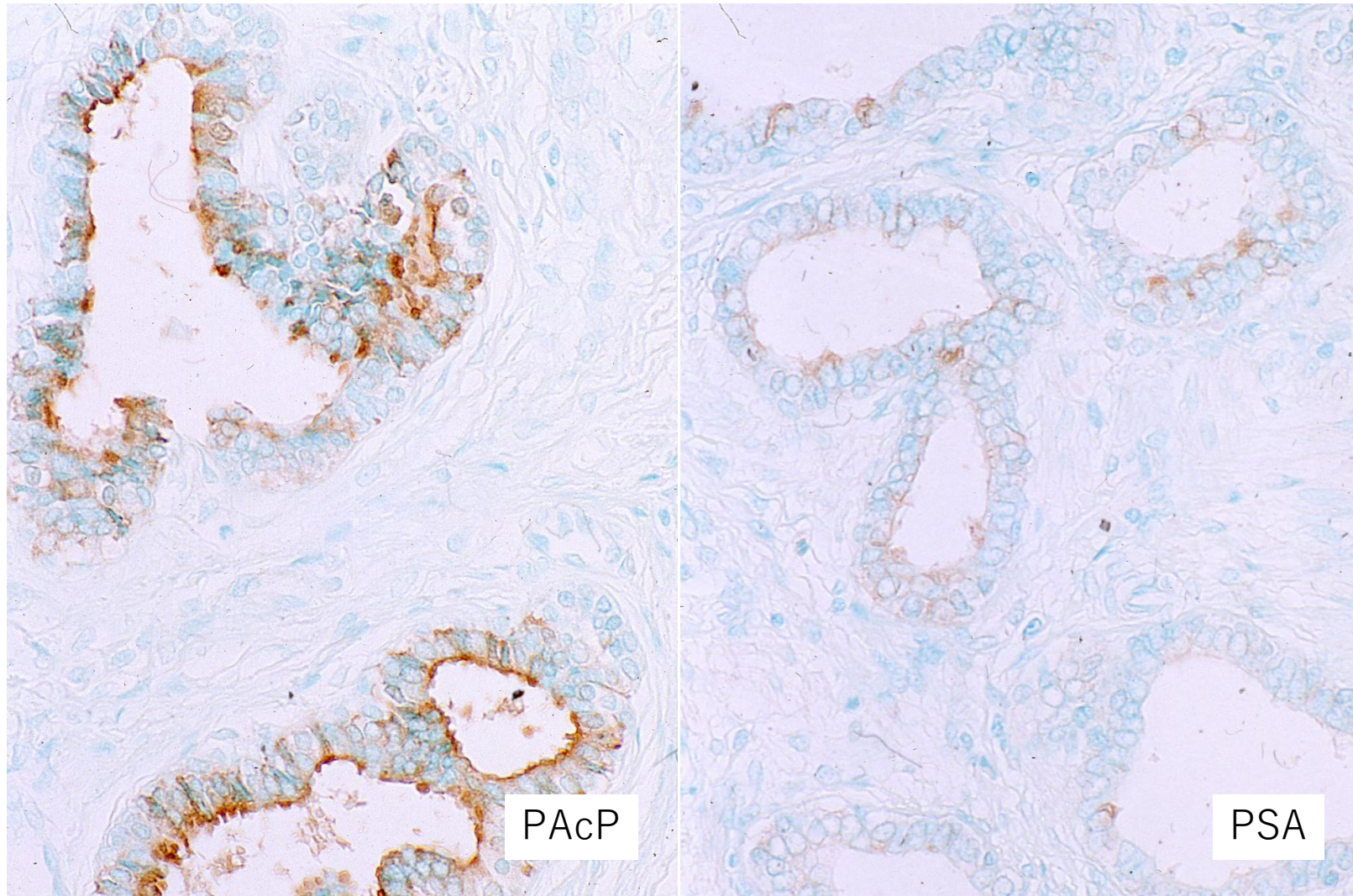
Prostatic acid phosphatase immunoreactivity in rectal carcinoid tumors

Immunostaining for prostatic acid phosphatase (PAP) and prostate-specific antigen (PSA) is reliable in identifying metastatic adenocarcinoma of prostate origin. However, neuroendocrine tumors including islet cell tumors and hindgut-derived carcinoid tumors are frequently positive for PAP but not for PSA. Western blot analysis of rectal carcinoid confirms the presence of 45-55 kD PAP molecules. Normal islet cells and rectal neuroendocrine cells are also immunoreactive for PAP.

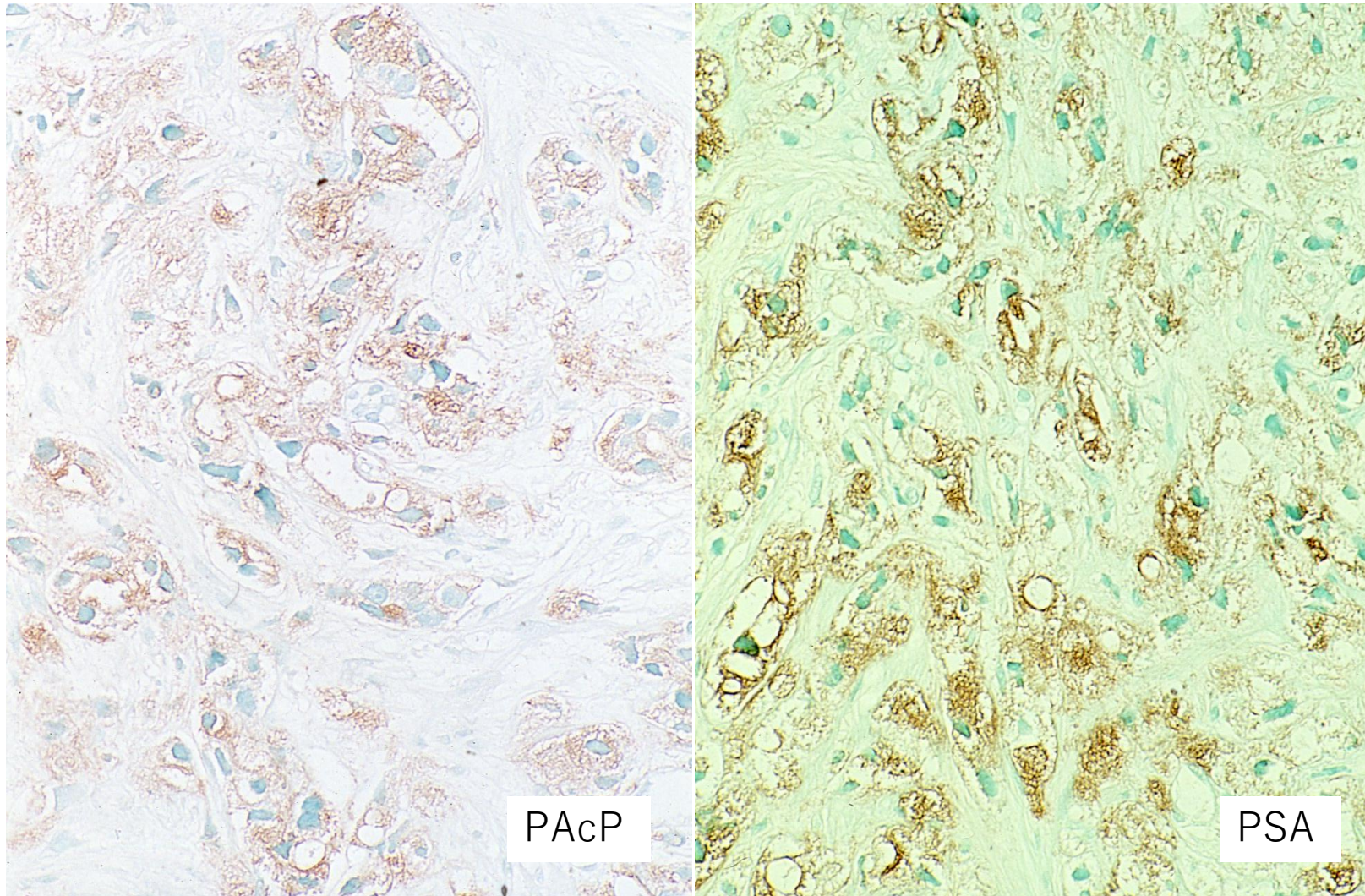
Ref.: Azumi N, et al. Prostatic acid phosphatase in carcinoid tumors. Immunohistochemical and immunoblot studies. Am J Surg Pathol 1991; 15(8):785-790. doi: 10.1097/00000478-199108000-00009



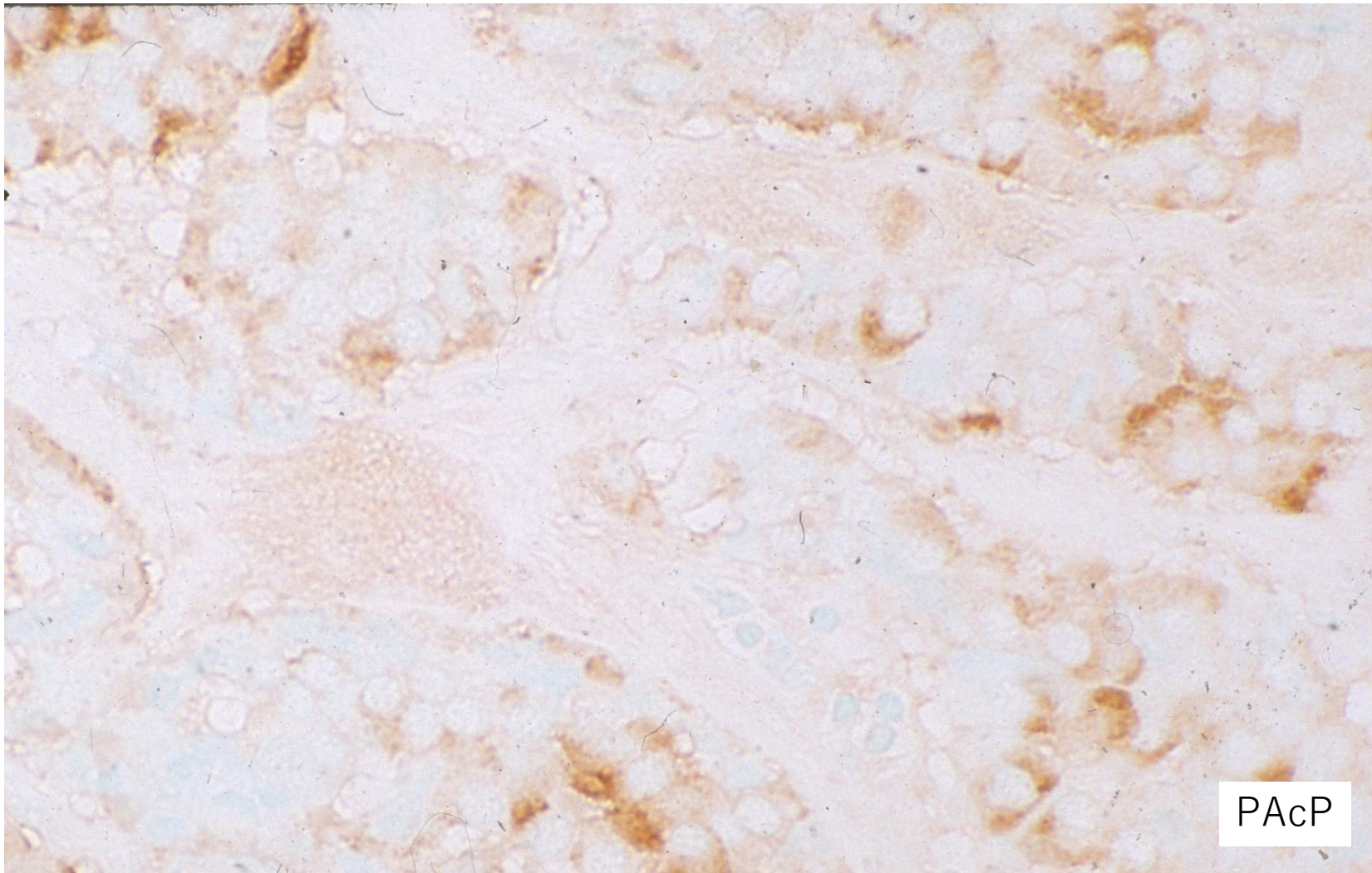
Normal adult prostate showing PAcP (left) and PSA (right) immunoreactivity. Prostatic acinar cells are immunoreactive for both markers.



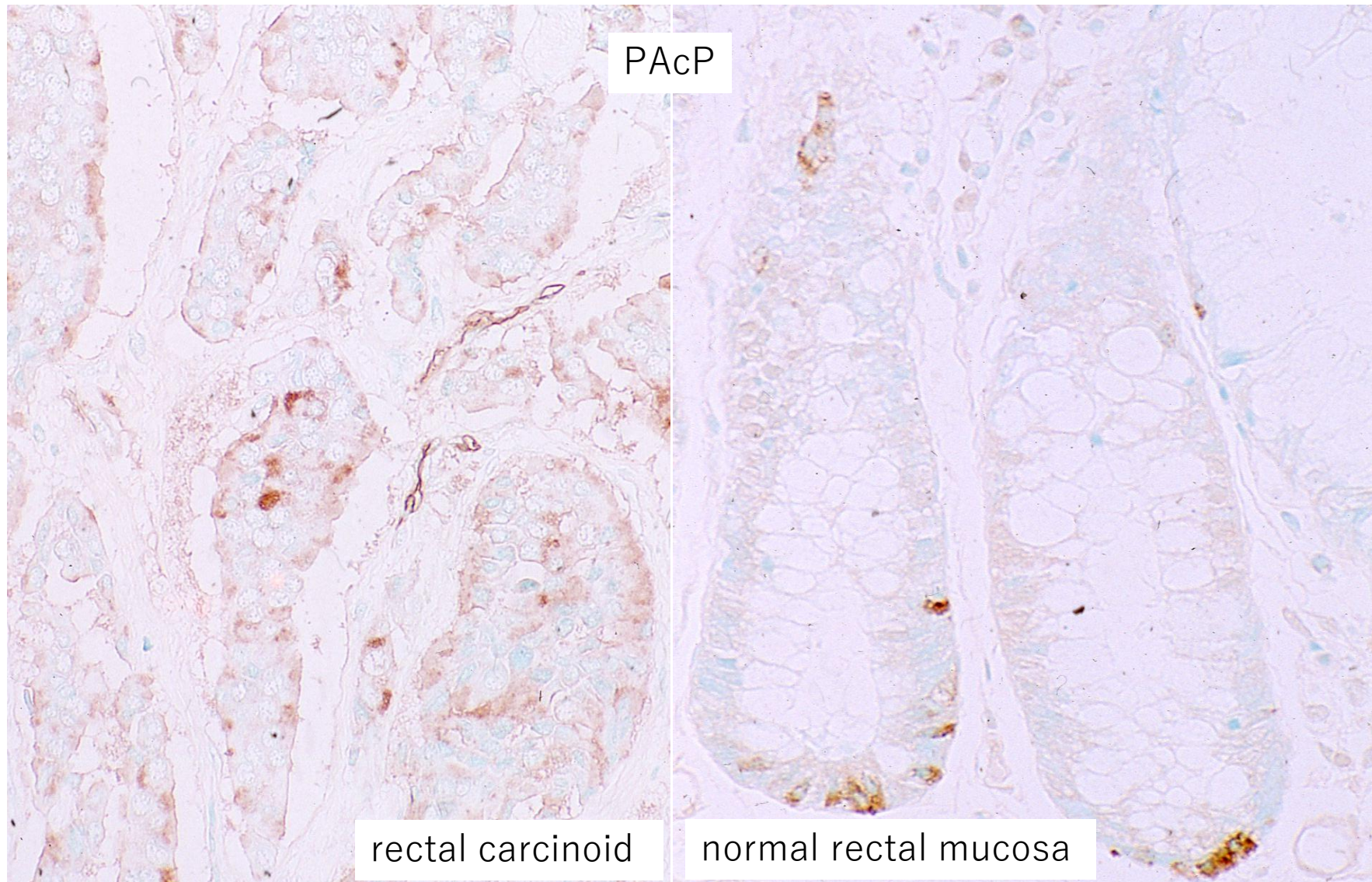
Normal pediatric prostate (a 4 y-o boy) showing PAcP (left) and PSA (right) immunoreactivity mainly in the apical cytoplasm. PSA expression is weak in the pediatric prostate. Prostatic acinar cells are immunoreactive for both markers.



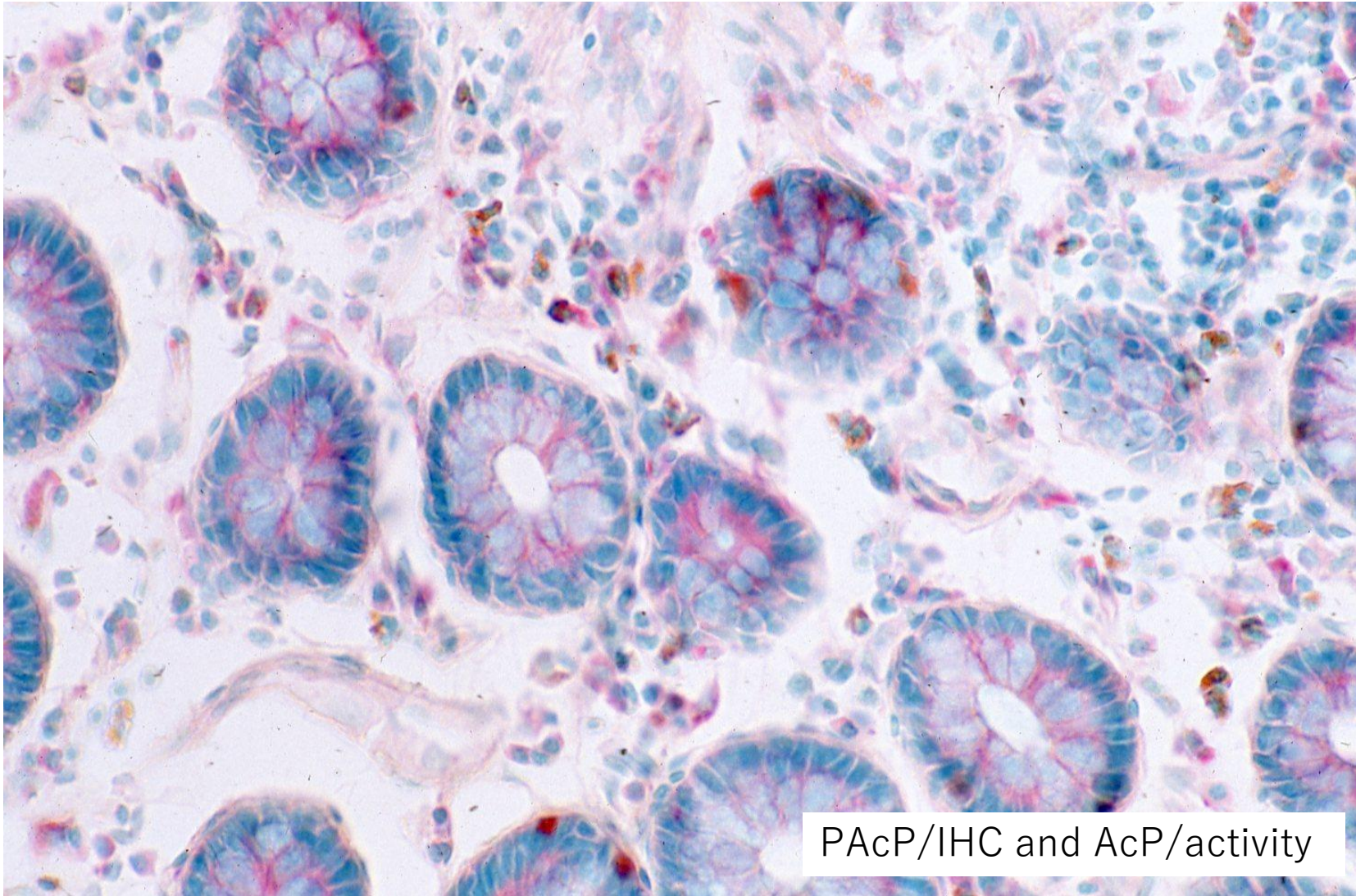
Prostatic acinar adenocarcinoma showing PAcP (left) and PSA (right) immunoreactivity. PAcP and PSA are representative markers of prostatic carcinoma.



Rectal carcinoid tumor expressing PAcP immunoreactivity. PAcP is consistently expressed in neuroendocrine tumors, particularly in rectal carcinoid tumors (immunostaining for PAcP).

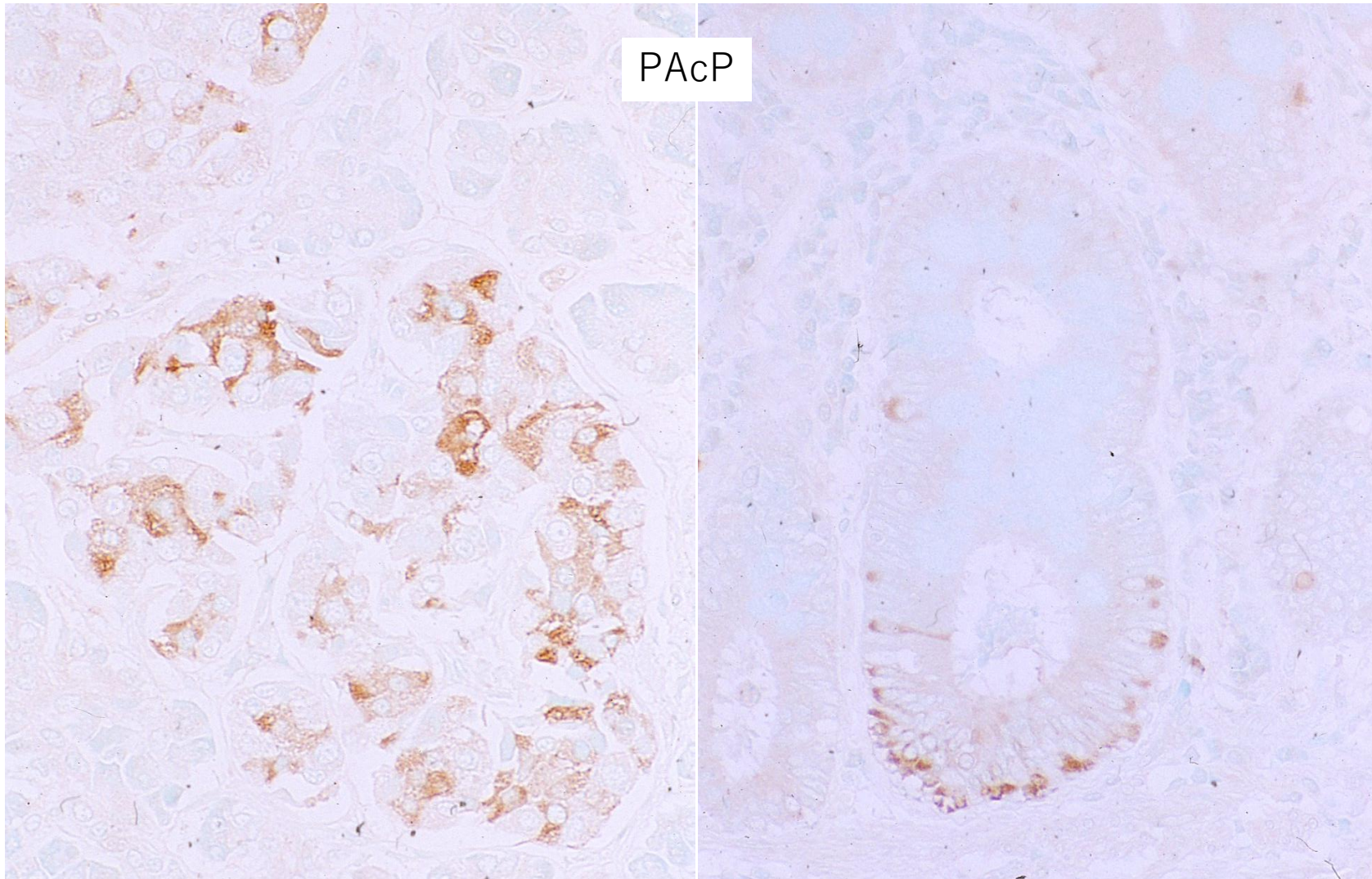


PAcP expression in rectal carcinoid tumor (left) and in normal rectal neuroendocrine cells (right). PAcP can be regarded as one of the neuroendocrine markers (immunostaining for PAcP).

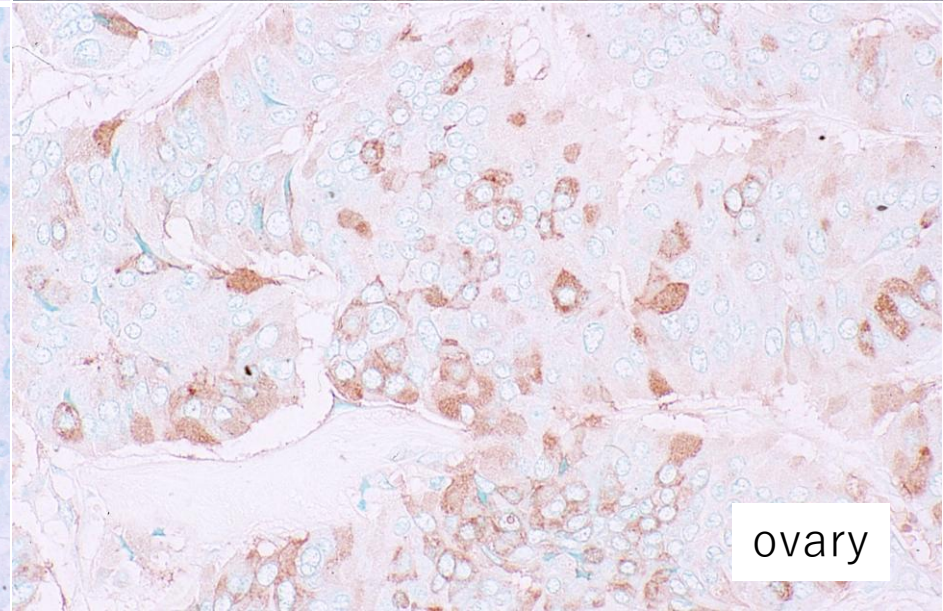
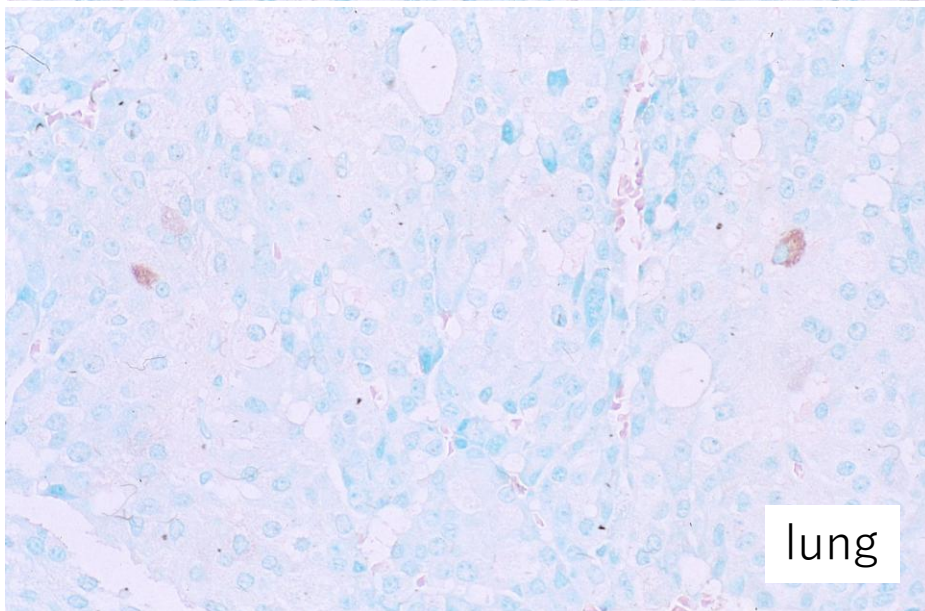
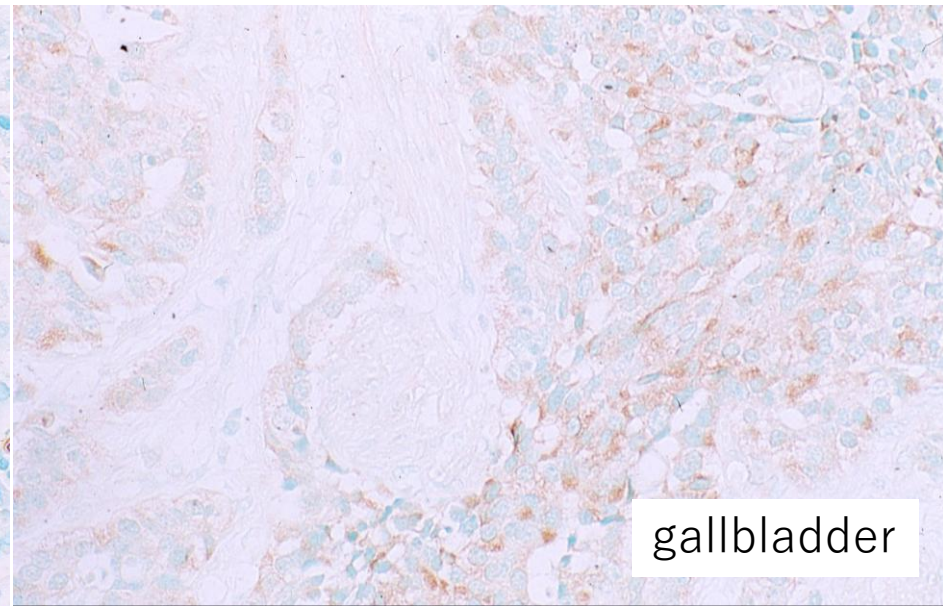
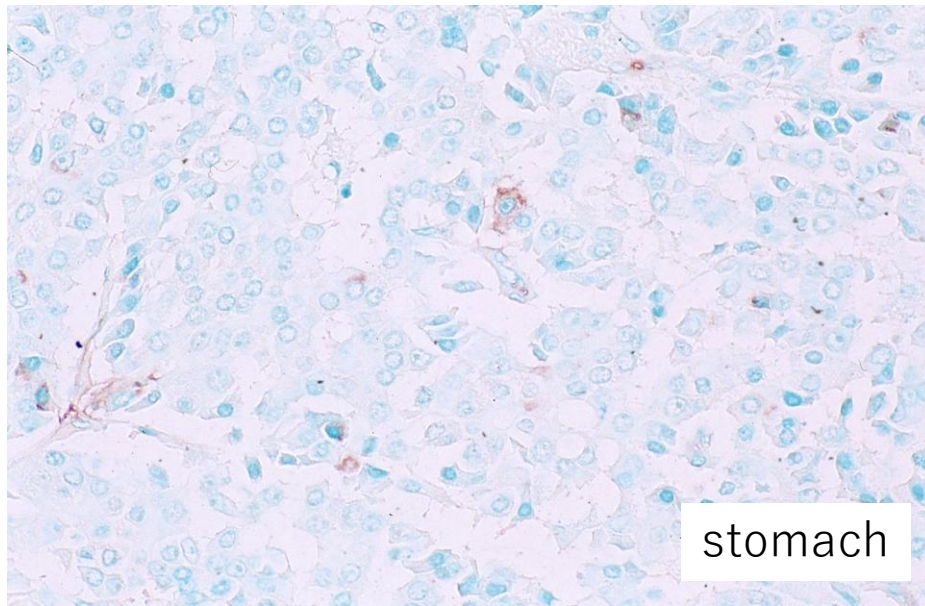


PAcP/IHC and AcP/activity

PAcP expression in normal rectal neuroendocrine cells (brown-colored reaction products). In frozen sections, acid phosphatase (AcP) activity is demonstrated enzyme histochemically. The cytoplasm of the normal crypt epithelial cells and lamina propria inflammatory cells is positive for the AcP activity.



PAcP expression in Langerhans islet of the pancreas (left) and in intestinal metaplasia of the stomach (right). PAcP is also expressed in normal neuroendocrine cells (immunostaining for PAcP).



PAcP expression in carcinoid tumors of the stomach, gallbladder, lung and ovary (immunostaining for PAcP). PAcP can be one of the neuroendocrine markers.