Assessment Run 5 2001

Synaptophysin (SYP)

The slides to be stained for synaptophysin contained a normal pancreas and colon, three carcinoids, one small cell lung carcinoma, one Merkel cell tumour, and one paraganglioma.
39 laboratories submitted a stained section. Of these, 19 used Dako's pAb, 10 used mAb Snp88, 8 used mAb SY38, 1 used mAb 27G12, and 1 used Ventana's pAb.
At the assessment optimal staining achieved in 14, acceptable in 15, borderline in 8 and poor staining in 2 of the laboratories. Optimal results were in one or more cases achieved with all of the Abs Dako's pAb, Snp88, SY38 and 27G12.
Mandatory for an optimal staining was HIER and appropriate dilution of the primary antibody. Note, at a slight overstaining of the endocrine cells must be accepted in order to achieve staining of tumour cells, which often have fewer epitopes available. Staining of the small peripheral nerves may be a good indicator for a sufficient staining (Fig. 1a).
The main reasons for a borderline or poor staining was insufficient HIER (too short efficient heating time and/or inappropriate pH) and a too dilute primary antibody in relation to the overall sensitivity of the protocol.
Representative fields are illustrated below (Fig. 1.: Dako pAb, Fig. 2.: mAb Snp88) with links to examples of good protocols.

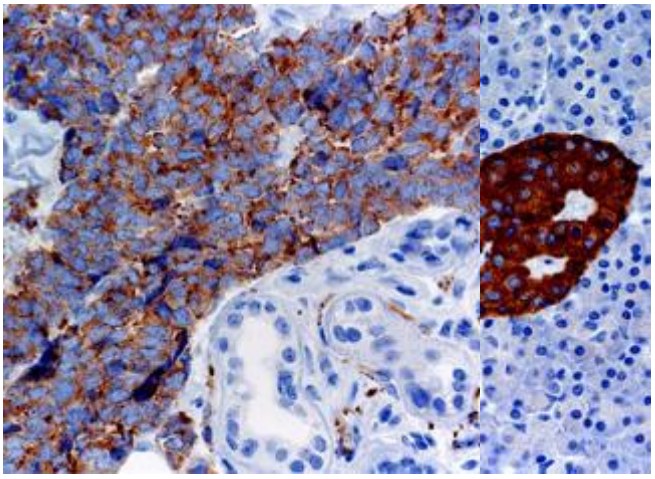

Fig. 1a
Optimal staining, using Dako's pAb. To the left, a Merkel cell tumour infiltrating the skin is seen. All tumour cells are intensely stained. The sweat glands are unstained, while the surrounding nerve fibres are positive. In the normal pancreas (right) the islet cells are intensely stained, while the exocrine glandular tissue is unstained.

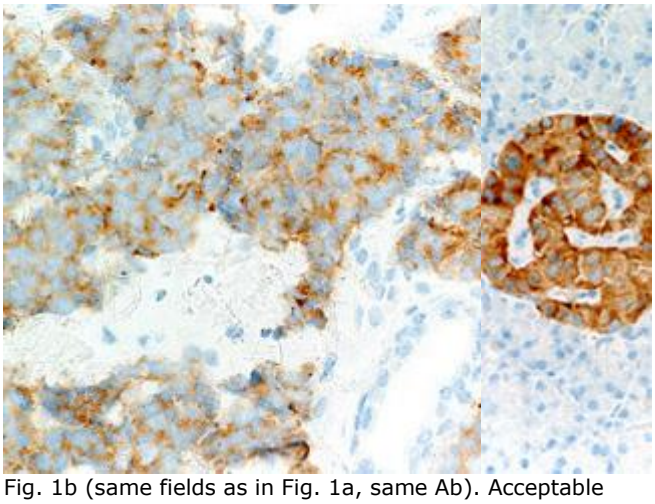

Fig. 1b (same fields as in Fig. 1a, same Ab). Acceptable staining of tumour cells and islet cells. The tumour appears slightly overcooked but the signal-to-noise ratio and chromogen localisation is good.

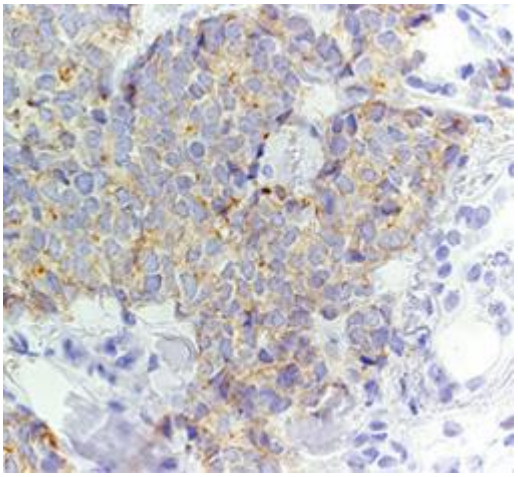

Fig 1c (same fields as in Fig. 1a, same Ab).
Borderline staining. While the islet cells to the right give an acceptable signal, the staining of the tumour cells is too weak, though is can still be interpreted as positive.

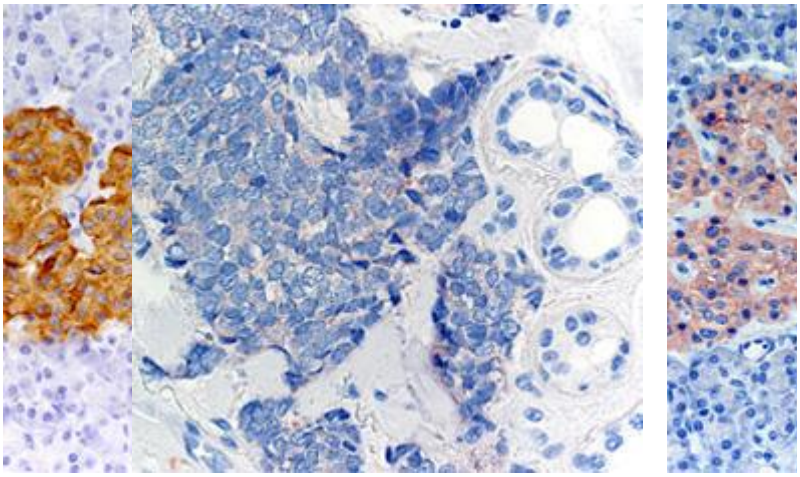

Fig. 1d (same fields as in Fig. 1a, same Ab).
Poor staining. The islet cells are weakly stained and the tumour cells almost unstained.

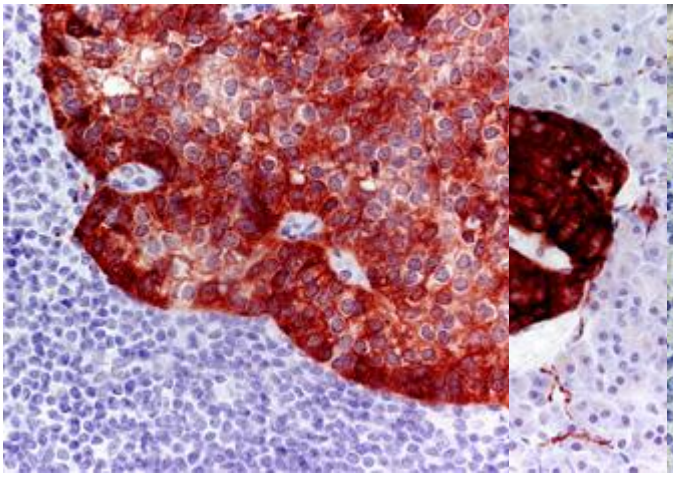

Fig. 2a
Optimal staining, using mAb snp88. To the left, a carcinoid tumour infiltration lymphatic tissue is seen. All tumour cells are stained with some enhancement in the periphery. To the right the pancreatic islet cells are intensely stained. In this staining, even nerve fibres in the pancreas are detected.

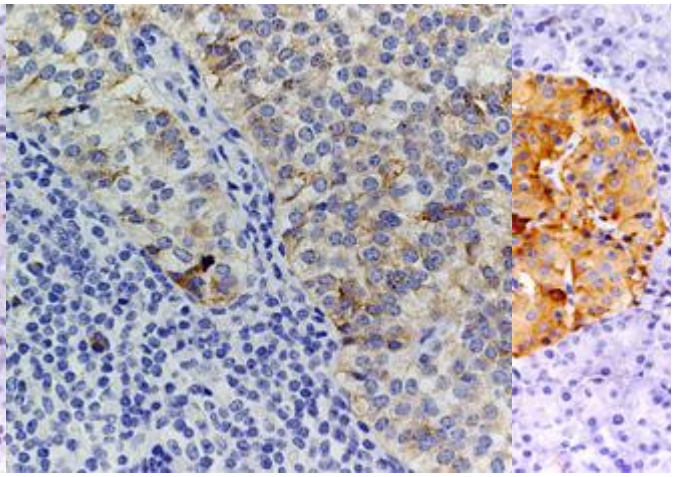

Fig. 2b (same fields as in Fig. 2a, same Ab).
Acceptable staining. Some tumour cells are weakly stained.

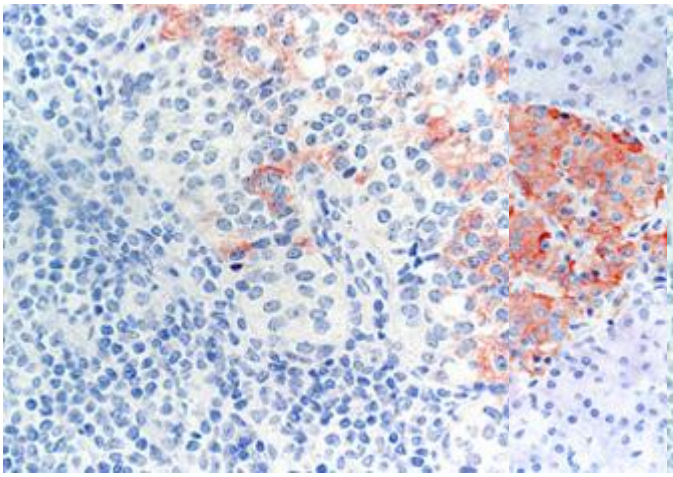

Fig.2c (same fields as in Fig. 2a, same Ab).
Insufficientstaining. Many tumour cells are unstained.

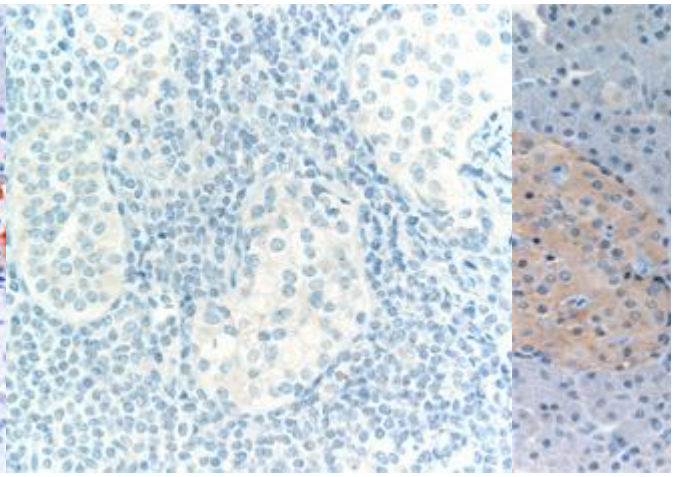

Fig. 2d (same fields as in Fig. 2a, same Ab).
Insufficient staining. The islet cells to the right are weakly stained and the tumour to the left practically unstained.

SN/MV/LE 29-12-2002