Polyclonal Rabbit Anti-Human Synaptophysin
Code No. A 0010
Lot 071. Edition 08.01.02

Intended use
For in vitro diagnostic use.
DAKO Polyclonal Rabbit Anti-Human Synaptophysin is intended for use in immunocytochemistry. The antibody detects the synaptophysin-protein, which is present in presynaptic vesicles of various kinds of neurons. Antibodies to synaptophysin are a useful tool for the identification of a wide spectrum of neuroendocrine neoplasms of the neural type, including neuroblastomas, ganglieneuroblastomas, ganglioneuromas, pheochromocytomas, and paragangliomas. Additionally, antibodies to synaptophysin detect neuroendocrine neoplasms of epithelial type, e.g. pancreatic islet-cell neoplasms, medullary thyroid carcinomas, pituitary and parathyroid adenomas, and bronchopulmonary and gastrointestinal tract carcinoids (1, 2, 3, 4). Differential identification is aided by the results from a panel of antibodies. Interpretation must be made within the context of the patient’s clinical history and other diagnostic tests by a qualified pathologist.

Synonym for antigen
Protein p38 (5).

Introduction
Synaptophysin is an acidic, homo-oligomeric, integral membrane glycoprotein (monomer = 38 kDa), originally isolated from presynaptic vesicles of rat brain. The protein is a component of the classic, nerve-terminal exo-endocytic recycled small synaptic vesicles (SSV), which are present in almost all neurons and regarded as neuron-specific organelles with no equivalent in non-neuronal cells (5). However, apart from the SSV-localization in neurons, synaptophysin is also widespread distributed on small pleiomorphic vesicles, but not on secretory granules, in a variety of neuroendocrine cells (3, 5).

Reagent provided
Affinity-isolated rabbit antibody purified by using immobilized synaptophysin peptide and provided in liquid form. In 0.05 mol/L Tris/HCl, 0.1 mol/L NaCl, 15 mmol/L NaN3, pH 7.2. Package size is 1 mL.
Protein concentration: 0.3 g/L.

Immunogen
Synthetic human synaptophysin peptide coupled to KLH.

Specificity
The antibody reacts with a hydrophilic peptide sequence selected from the deduced amino acid sequence of synaptophysin.

Precautions
1. For in vitro diagnostic use.
2. The NaN3 used as a preservative is toxic if ingested. NaN3 may react with lead and copper plumbing to form highly explosive metal compounds. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing.

Storage
Store at 2-8 °C. Do not use after expiration date stamped on vial. If reagents are stored under any conditions other than those specified, the user must verify the conditions. There are no obvious signs to indicate instability of this product. Therefore, positive and negative controls should be run simultaneously with patient specimens. If unexpected staining is observed which cannot be explained by variations in laboratory procedures and a problem with the antibody is suspected, contact DAKO Technical Services.

Specimen preparation
Paraffin sections: The antibody can be used for labelling paraffin-embedded tissue sections fixed in formalin. Heat-induced epitope retrieval in 10 mmol/L citrate buffer, pH 6.0, is required. The tissue sections should not dry out during the treatment or during the following immunocytochemical staining procedure.

Staining procedure
Dilution: DAKO Polyclonal Rabbit Anti-Human Synaptophysin, code No. A 0010, may be used at a dilution range of 1:50-1:100 when applied on formalin-fixed, paraffin-embedded sections of human colon, and using 15 minutes heat-induced epitope retrieval in 10 mmol/L citrate buffer, pH 6.0, and 30 minutes incubation at room temperature with the primary antibody. Optimal conditions may vary depending on specimen and preparation method, and should be determined by each individual laboratory. As negative control, DAKO Rabbit Immunoglobulin Fraction (Solid-Phase Absorbed), code No. X 0936, diluted to the same antibody concentration as the primary antibody, is recommended.

Visualization: DAKO LSAB®+/HRP kits, code Nos. K 0679 and K 0690, and DAKO EnVision™+/HRP kits, code Nos. K 4008 and K 4010, are recommended. Follow the procedure enclosed with the selected visualization kit.

Automation: The antibody is well suited for immunocytochemical staining using automated platforms, such as the DAKO Autostainer.
Performance characteristics

Cells labelled by the antibody display a cytoplasmic staining pattern, occasionally revealing a punctate or granular pattern.

Normal tissues: The antibody labels presynaptic vesicles of cerebellum as well as the submucosal and myenteric plexus in colon. In addition, neuroendocrine cells of the human adrenal medulla, pancreas and colon mucosa are reactive with the antibody.

Abnormal tissues: In sympathetic and parasympathetic extra-adrenal paragangliomas, the antibody labelled 12/12 sympathetic- and 14/14 parasympathetic extra-adrenal paragangliomas (6). Human carcinoids are also reactive with the antibody.

References