

BACKGROUND

Secretogranin III (SCG3) belongs to a family of acidic secretory proteins known as granins, which are widely expressed in endocrine and neuronal cells such as pancreatic beta-cells and pituitary cells. SCG3 mRNA has been cloned from brain- and pituitary-specific mRNA and is expressed in the paraventricular nucleus (PVN), lateral hypothalamic area (LHA), and arcuate nucleus (ARC) of the hypothalamus, which are important regions for appetite regulation. SCG3 is coexpressed with orexin, melanin-concentrating hormone (MCH), neuropeptide Y (NPY), and POMC in the hypothalamus, and it forms granule-like structures in association with these neuropeptides.¹ Furthermore SCG3 is known to bind chromogranin A (CGA) and targets it to the secretory granules in pituitary corticotroph cells and pancreatic beta-cells which participates in insulin secretion. CGA coaggregates several peptide hormones in its core, and the aggregate form is directed to secretory granules by SCG3; thus, SCG3 has been proposed to function as a navigator of the peptide hormone carrier protein CGA to the secretory granules. It was shown that SCG2 binds to SCG3 and the SCG2/SCG3 system may respond in an adaptive manner to acute body weight changes. They may be a potential regulator of food intake based on its capacity to accumulate appetite-related hormones into secretory granules.² Interestingly SCG3 is located on chromosome 15q21, on which association with obesity has been previously indicated. Data from the Framingham Heart Study suggested a moderate linkage of the metabolic syndrome to this general region on chromosome 15q on which the presence of a susceptibility gene for type 2 diabetes in the Japanese population has also been indicated.³

References:

1. Tanabe, A. et al: J. Clin. Endocrinol. Metab. 92:1145-54, 2007
2. Hotta, K. et al: J. Endocrinol. 202:111-21, 2009
3. Stein, C.M. et al: BMC Genet 4:S99-S103, 2003

TECHNICAL INFORMATION

Source:

SCG3 Antibody is a rabbit antibody raised against a short peptide from human SCG3 sequence.

Specificity and Sensitivity:

This antibody detects endogenous levels of SCG3 proteins without cross-reactivity with other related proteins.

Storage Buffer: PBS and 30% glycerol

Storage:

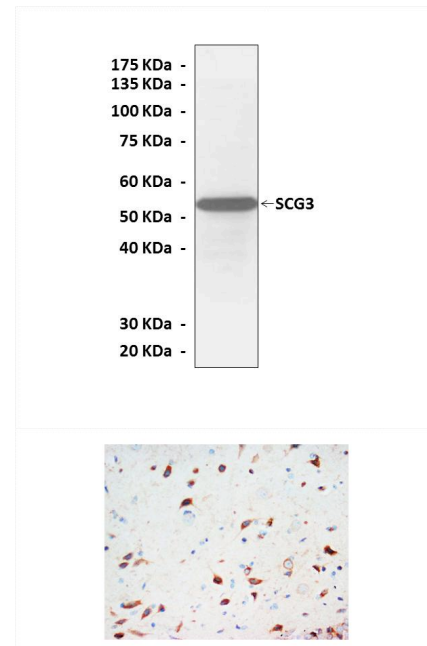
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	1:1000
IP	n/d
IHC	1:50-200
ICC	n/d
FACS	n/d

*Optimal dilutions must be determined by end user.

QUALITY CONTROL DATA



Top: Western Blot detection of SCG3 proteins in HeLa cell lysate using SCG3 Antibody. **Bottom:** This antibody stains paraffin-embedded rat brain tissue in immunochemical analysis.

