

CCK-8

Cat.No. 438 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For reconstitution add 100 µl H ₂ O, then aliquot and store at -20°C until use. For detailed information, see back of the data sheet.
Applications	WB: not tested yet IP: not tested yet ICC: 1 : 500 IHC: 1 : 500 IHC-P: 1 : 1000 up to 1 : 2000
Immunogen	Synthetic sulfated CCK-8 peptide corresponding to AA 96 to 103 from mouse CCK precursor (UniProt Id: P09240). (UniProt Id: P09240)
Reactivity	Reacts with: mouse (P09240), rat (P01355), human (P06307). Other species not tested yet.
Specificity	The antibody recognizes CCK-8. It may crossreact with the precursor protein and with other peptides of the cholecystokinin family due to sequence homology.

TO BE USED IN VITRO / FOR RESEARCH ONLY
NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Background

Cholecystokinin (CCK) is synthesized as a preprohormone, which is then converted into multiple isoforms. The sulphated octapeptide amide **CCK-8** exists as the predominant form of CCK in neurons. CCK is widely distributed in several brain regions, including hypothalamus, hippocampus, amygdala nuclei, and cortical regions. In the periphery, CCK peptides are mainly produced in small intestinal endocrine I-cells and in neurons of the enteric nervous system.

CCK plays important physiological roles both as a neuropeptide in the central nervous system and as a peptide hormone in the gut. It is released rapidly into the circulation in response to a meal. The greatest stimulator of CCK release is the presence of fatty acids and/or certain amino acids in the chyme entering the duodenum. CCK peptides stimulate pancreatic enzyme secretion and growth, gallbladder contraction, gut motility, and inhibit gastric acid secretion.

In the central nervous system, CCK acts as a neurotransmitter and neuromodulator regulating both the electrical activity of neurons and the release of other neuropeptides. It is involved in feeding, satiety, pain, anxiety, and memory processes.

Selected References for 438 004

Targeted proteoform mapping uncovers specific Neurexin-3 variants required for dendritic inhibition. Hauser D, Behr K, Konno K, Schreiner D, Schmidt A, Watanabe M, Bischofberger J, Scheiffele P. *Neuron* (2022) 11013: 2094-2109.e10. . **IHC; tested species: mouse**

The role of subicular VIP-expressing interneurons on seizure dynamics in the intrahippocampal kainic acid model of temporal lobe epilepsy.

Rahimi S, Salami P, Matulewicz P, Schmuck A, Bukovac A, Ramos-Prats A, Tasan RO, Drexel M. *Experimental neurology* (2023) 370: 114580. . **IHC; tested species: mouse**

Selected General References

Cholecystokinin-From Local Gut Hormone to Ubiquitous Messenger. Rehfeld JF et al. *Front Endocrinol (Lausanne)* (2017) PubMed:28450850

Sticking out of the crowd: the molecular identity and development of cholecystokinin-containing basket cells. Keimpema E et al. *J. Physiol. (Lond.)* (2012) PubMed:22219340

Cholecystokinin. Dockray GJ et al. *Curr Opin Endocrinol Diabetes Obes* (2012) PubMed:22157397

Cholecystokinin: a multi-functional molecular switch of neuronal circuits. Lee SY et al. *Dev Neurobiol* (2011) PubMed:21154912

Access the online factsheet including applicable protocols at <https://sysy.com/product/438004> or scan the QR-code.



FAQ - How should I store my antibody?

Shipping Conditions

- All our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form without loss of quality at ambient temperatures for several weeks.

Storage of Sealed Vials after Delivery

- **Unlabeled** and **biotin-labeled antibodies** and **control proteins** should be stored at 4°C before reconstitution. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C.

Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Polyclonal Antibodies

- **Crude antisera:** With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies:** Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein. For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.