Data Sheet

**Reconstitution/Storage**

100 µg purified IgG, lyophilized. For **reconstitution** add 100 µl H₂O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use. For detailed information, see back of the data sheet.

**Applications**

<table>
<thead>
<tr>
<th>Method</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>WB</td>
<td>1 : 1000 (AP staining)</td>
</tr>
<tr>
<td>IP</td>
<td>not tested yet</td>
</tr>
<tr>
<td>ICC</td>
<td>not tested yet</td>
</tr>
<tr>
<td>IHC</td>
<td>1 : 100</td>
</tr>
<tr>
<td>IHC-P/FFPE</td>
<td>not tested yet</td>
</tr>
</tbody>
</table>

**Clone**

2-1-155

**Subtype**

IgG1

**Immunogen**

207 to 388 from human m-AChR-2 (UniProt Id: P08172)

**Epitope**

Epitope: AA 207 to 388 from human m-AChR-2 (UniProt Id: P08172)

**Reactivity**

Reacts with: human (P08172), rat (P10980), mouse (Q9ER24), Other species not tested yet.

**Specificity**

Specific for muscarinic acetylcholine receptor 2.

**Remarks**

This antibody detects also higher molecular weight bands, depending on the glycosilation state of the protein. The protein tends to aggregate after boiling, making it necessary to run SDS-PAGE with non-boiled samples.

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**Background**

The muscarinic acetylcholine receptors comprise 5 members (m1 - m5) and mediate many acetylcholine driven cellular actions such as adenylate cyclase inhibition, phosphoinositide degeneration and potassium channel mediation. They belong to a larger family of G protein-coupled receptors. Muscarinic acetylcholine receptor 2 has been suggested to function as a presynaptic autoreceptor that inhibits acetylcholine release in the basal forebrain. It is also expressed in cardiac tissue where it is involved in mediation of bradycardia and a decrease in cardiac contractility.

**Selected References for 223 017**

Evaluation of muscarinic agonist-induced analgesia in muscarinic acetylcholine receptor knockout mice.


Subcellular redistribution of m2 muscarinic acetylcholine receptors in striatal interneurons in vivo after acute cholinergetic stimulation.

Bernard V, Laribi O, Levey AI, Bloch B


Light and electron microscopic study of m2 muscarinic acetylcholine receptor in the basal forebrain of the rat.

Levey AI, Edmunds SM, Hersch SM, Wiley RG, Hellman CJ


**Selected General References**

Altered striatal function and muscarinic cholinergic receptors in acetylcholinesterase knockout mice.

Volpicelli-Daley LA, Hrabovska A, Duyse EN, Ferguson SM, Blakely RD, Lockridge O, Levey AI


Characterization of central inhibitory muscarinic autoreceptors by the use of muscarinic acetylcholine receptor knock-out mice.

Zhang W, Basile AS, Gomez A, Volpicelli LA, Levey AI, Wess J


Association of m1 and m2 muscarinic receptor proteins with asymmetric synapses in the primate cerebral cortex: morphological evidence for cholinergetic modulation of excitatory neurotransmission.

Mrzljak L, Levey AI, Goldman-Rakic PS


Access the online factsheet including applicable protocols at [https://sysy.com/product/223017](https://sysy.com/product/223017) 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 10 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 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.