CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

Product name	Muscarinic acetylcholine receptor M2, Human, clone B8E5		
Catalog number	HM2239-20UG		
Lot number	-	**Expiry date**	-
Volume	200 µl	**Amount**	20 µg
Formulation	0.2 µm filtered in PBS+0.1%BSA	**Concentration**	100 µg/ml
Host Species	Mouse IgG2a	**Conjugate**	None
Endotoxin	<24 EU/mg	**Purification**	Protein G
Storage	4°C		

Application notes

	IHC-F	IHC-P	IF	FC	FS	IA	IP	W
Reference #								
Yes	●		●		●	●		●
No								
N.D.		●		●			●	

N.D.= Not Determined; IHC = Immuno histochemistry; F = Frozen sections; P = Paraffin sections; IF = Immuno Fluorescence; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IP = Immuno Precipitation; W = Western blot

Dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50.

- FS: Antibody B8E5 functions as an agonist.
- W: Non-reduced conditions were used.

General Information

Description

The monoclonal antibody B8E5 recognizes human muscarinic acetylcholine receptor M2 (M2 receptor), a G protein-coupled cardiovascular receptor of ~55 kDa. This receptor is an integral membrane protein consisting of seven membrane spanning a-helices linked together by extra- and intracellular loops that form a pharmacophore pocket. Autoantibodies directed against cardiovascular G protein-coupled receptors functionally interfering with the target have been described in several cardiovascular diseases. The M2 receptor is the predominant sybtype of muscarinic receptors present in the heart of mammalian species. The muscarinic acetylcholine receptor mediates various cellular responses, including inhibition of adenylate cyclase, breakdown of phosphoinositides and modulation of potassium channels through the action of G proteins. Primary transducing effect is adenylate cyclase inhibition. Monoclonal antibody B8E5 inhibits the ß-adrenergic L-type Ca2+ currents through activation of the muscarinic acetylcholine receptor M2. It suggests that the antibody acts not via the classical pathway of decreasing cAMP, but rather by increasing cGMP. Monoclonal antibody B8E5 acts by functional dimerization of the receptor resulting in stabilization of the constitutive active receptor dimers and paradoxically induces a small decrease in carbachol affinity for the M2 receptor. It recognizes the pentapeptide VRTVE (aa 168-172) corresponding to the N-terminal part of the second extracellular loop of the human M2 receptor.

Immunogen

Peptide VRTVEDGECYIQFFSNAAVTFGTAI(C): Human second extracellular loop residues 168-192

Aliases

M2ACh-R

Cross reactivity

Rat: Yes; Guines pig: Yes; Mouse: Yes.

References

1. Fu, L et al; Agonist-like activity of anti-peptide antibodies directed against an autoimmune epitope on the heart muscarinic acetylcholine receptor. Receptors Channels 1994, *2*: 121
2. Elies, R et al; Immunochemical and functional characterization of an agonist-like monoclonal antibody against the M2 acetylcholine receptor. Eur J Biochem 1998, *251*: 659
3. Nascimento, J et al; cGMP-mediated inhibition of cardiac L-type Ca2+ current by a monoclonal antibody against the M2 ACh receptor. Am J Physiol Cell Physiol 2001, *281*: 1251

Storage&stability

Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year.

Precautions For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

We hereby certify that the above-stated information is correct and that this product has been successfully tested by the Quality Control Department. This product was released for sale according to the existing specifications. This document has been produced electronically and is valid without a signature.

Approved by Manager of QC	Date
Brenda Teunissen	07/12/2020

Do you have any questions or comments regarding this product? Please contact us via support@hycultbiotech.com.