MPCyV Large T-Antigen (CM2B4)

Mouse anti-human MPCyV Large T-Antigen Monoclonal Antibody (Clone CM2B4)

REFERENCES AND PRESENTATIONS[1]

- **ready-to-use (manual or LabVision AutoStainer)**
  MAD-000613QD–3
  MAD-000613QD–7
  MAD-000613QD–12
- **Ready-to-use (MD-Stainer)**[2]
  MAD-000613QD-3/V
  MAD-000613QD/V
- **concentrated**
  MAD-000613Q - 1:50 recommended dilution

COMPOSITION
Anti-human MPCyV Large T-Antigen mouse monoclonal antibody purified from serum and prepared in 10mM PBS, pH 7.4, with 0.2% BSA and 0.09% sodium azide
INTENDED USE IVD: Immunohistochemistry (IHC) on paraffin embedded tissues. Not tested on frozen tissues or Western-Blotting
CLONE: CM2B4
Ig ISOTYPE: IgG2b
SPECIES REACTIVITY: In vitro diagnostics in humans. Not tested in other species
DESCRIPTION AND APPLICATIONS:
Merkel cells are round neuroendocrine cells found in skin where they form synaptic complexes with somatosensory afferent fibres. These complexes are responsible for fine touch and produce various neuroactive substances that act as fast-acting skin neurotransmitters or neuromodulators.
In pathological conditions, Merkel cells can proliferate and generate a rare but very aggressive form of skin cancer known as Merkel cell carcinoma (CCM). Around 80% of CMMs are caused by the recently described Merkel cell polyomavirus (MCPyV or MCV), which integrates into the genome of Merkel cells and proliferates clonally. The MCPyV virus is a non-encapsulated DNA virus consisting of two early units (two T antigens, one large and one small) and three late units (VP1, 2, and 3). The large T antigen is the MCPyV's functional nuclear protein, which has a molecular mass of 125 kDa and is expressed in tumour cells, where it binds to cell cycle suppressor molecules, degrades and sequesters them, promoting their S phase. The large T antigen has natural truncated mutations that also produce functionally active proteins of smaller size. The CM2B4 antibody, which shows no cross-staining with other types of polyomavirus and recognises the MCPyV large T antigen, has been synthesized against a peptide derived from exon 2 of the mentioned antigen's locus, for which it is highly specific, as well as for its 57kT isoforms; however, it may not detect some of its minor truncated forms.
CM2B4, assessed along with a panel of markers including cytokeratins 20 and 7, p63, TTF1, neuron-specific enolase, S100 protein, HMB45, and CD45, facilitates the diagnosis of approximately 80% of classical Merkel cell carcinoma cases.
However, most CCM cases with eccrine, squamous, rhabdomyoblastic, leiomyosarcomatous, or neuroblastic divergent differentiation are MCPyV negative and are associated with a worse prognosis of the disease. In comparison with MCPyV level detection using PCR, the antibody has a sensitivity of 95% and a specificity of 83% since, as mentioned above, MCPyV negative CCM cases have been observed, as well as occasional positivity of uncertain meaning in mature lymphocytes, sweat glands, and vascular endothelium.

IHC POSITIVE CONTROL: Tissue section from MCPyV positive classical Merkel cell carcinoma.
VISUALIZATION: Nuclear.

IHC RECOMMENDED PROCEDURE:
- 4µm thick section should be taken on charged slides; dry overnight at 60ºC
- Deparaffinise, rehydrate and HIER (heat induced epitope retrieval) – boil tissue in the Pt Module using Vitro S.A EDTA buffer pH8[3] for 20 min at 95ºC. Upon completion rinse with 3-5 changes of distilled or deionised water followed by cooling at RT for 20 min

[1] These references are for presentation in vials of Low Density Polyethylene (LDPE) dropper. In case the products are used in automated stainers, a special reference is assigned as follows:
- / L: Cylindrical screw-cap vials (QD-3 / L, QD-7 / L, QD-12 / L).
- / N: Polygonal screw-cap vials (QD-3 / N, QD-7 / N, QD-12 / N).
For different presentations (references / volumes) please contact the supplier.
2 For Technical specifications for MD-Stainer, please contact your distributor.

[3] Ref: MAD-004072R/D

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CE IVD

- Endogenous peroxidase block - Blocking for 10 minutes at room temperature using peroxidase solution (ref. MAD-021540Q-125)
- Primary antibody: incubate for 20 minutes [The antibody dilution (when concentrated) and protocol may vary depending on the specimen preparation and specific application. Optimal conditions should be determined by the individual laboratory]
- For detection use Master Polymer Plus Detection System (HRP) (DAB included; ref. MAD-000237QK)
- Counterstaining with haematoxylin and final mounting of the slide

STORAGE AND STABILITY: Stored at 2-8ºC. Do not freeze. Once the packaging has been opened it can be stored until the expiration date of the reagent indicated on the label. If the reagent has been stored under other conditions to those indicated in this document, the user must first check its correct performance taking into account the product warranty is no longer valid.

WARNINGS AND PRECAUTIONS:

1. Avoid contact of reagents with eyes and mucous membranes. If reagents come into contact with sensitive areas, wash with copious amounts of water.
2. This product is harmful if swallowed.
3. Consult local or state authorities with regard to recommended method of disposal.
4. Avoid microbial contamination of reagents.

SAFETY RECOMMENDATIONS

This product is intended for laboratory professional use only. The product is NOT intended to be used as a drug or for domestic purposes. The current version of the Safety Data Sheet for this product can be downloaded by searching the reference number at www.vitro.bio or can be requested at regulatory@vitro.bio.

BIBLIOGRAPHY

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6. Iwasaki T, Matsushita M, Kuwamoto S, Kato M, Murakami I, Higaki-Mori H, Nakajima H, Sano S, Hayashi K. Usefulness of significant morphologic characteristics in distinguishing between Merkel cell polyomavirus-positive and Merkel cell polyomavirus-negative Merkel cell carcinomas. Hum Pathol. 2013 May 10. doi:pii: S0046-8177(13)00110-X. 10.1016/j.humpath.2013.01.026. [Epub ahead of print]

LABEL AND BOX SYMBOLS

Explanation of the symbols of the product label and box:

	Expiration date
	Temperature limit
	Manufacturer
	Sufficient content for <n> assays
REF	Catalog number
LOT	Lot code
	Refer to the instructions of use
IVD	Medical product for *in vitro* diagnosis.
e-SDS	Material safety data sheet