**BACKGROUND**

Merkel cells are round neuroendocrine cells found in skin that have synaptic contacts with somatosensory afferents. Responsible for touch and pressure sensation, Merkel cells can turn malignant and form a rare but aggressive form of skin cancer known as Merkel cell carcinoma (MCC). Approximately 80% of MCC are caused by a newly-described polyomavirus called Merkel cell polyomavirus, also known as MCPyV or MV, that expresses a large T antigen in tumor cells. Full-length MCPyV large T-antigen is a 125 kDa nuclear protein but MCPyV T-antigens obtained from tumors have natural truncating mutations resulting in variably-sized, smaller proteins. MCPyV large T-antigen (CM2B4) was raised against a peptide in exon 2 of the T antigen locus and is highly specific for MCPyV large T and 57kT isoforms but will not detect MCPyV small T antigen. While human MCPyV infection is widespread, MCPyV large T antigen is a specific marker for Merkel cell tumors.

**PROTOCOLS**


**SOURCE**

MCPyV large T-antigen (CM2B4) is a mouse monoclonal antibody raised against large T/57kT exon 2 peptides of Merkel cell polyomavirus.

**PRODUCT**

Each vial contains 200 µg IgG2b kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MCPyV large T-antigen (CM2B4) is available conjugated to agarose (sc-136172 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-136172 HRP), 200 µg/ml, for WB, IHCP (SA) or ELISA; to either phycocyanin (sc-136172 PE), fluorescein (sc-136172 FITC), Alexa Fluor® 488 (sc-136172 AF488), Alexa Fluor® 594 (sc-136172 AF594) or Alexa Fluor® 647 (sc-136172 AF647), 200 µg/ml, for IF, IHCP and FCM; and to either Alexa Fluor® 680 (sc-136172 AF680) or Alexa Fluor® 790 (sc-136172 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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**APPLICATIONS**

MCPyV large T-antigen (CM2B4) is recommended for detection of Merkel Cell Polyomavirus large T antigen of Merkel cell polyomavirus origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation (1-2 µg per 100-500 µg of total protein [1 ml of cell lysate]), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of MCPyV large T-antigen wild-type/full length: 125 kDa.

**RESEARCH USE**

For research use only, not for use in diagnostic procedures.