BV2 cell line is a commonly used cell line in research related to neuroscience and immunology. BV2 cells are immortalized mouse microglial cells, which are the resident immune cells of the central nervous system (CNS). Microglia play a crucial role in immune surveillance, maintenance of tissue homeostasis, and inflammatory responses in the CNS.

The BV2 cell line was derived from primary microglial cells isolated from the brains of newborn mice. The cells were immortalized using a retroviral vector expressing the v-myc oncogene, which prevents the cells from undergoing senescence and allows them to proliferate indefinitely in culture.

BV2 cells have been widely used as a model system for studying the role of microglia in various neurological diseases and conditions, including Alzheimer's disease, Parkinson's disease, multiple sclerosis, and traumatic brain injury. They have also been used to investigate the mechanisms of neuroinflammation, oxidative stress, and neurotoxicity.

BV2 cells are easy to maintain in culture and can be stimulated to produce various cytokines, chemokines, and other inflammatory mediators in response to different stimuli. They have therefore become an important tool for studying the signaling pathways and molecular mechanisms involved in microglial activation and neuroinflammation

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Last update: 2024/06/07 02:53

