Technology: Detection of PKC-iota as a biomarker for brain tumorigenesis

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The VA has a joint ownership interest with the University of South Florida

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Abstract A method of detecting brain tumorigenesis in a subject, the method including the steps of (a) obtaining a sample from the brain of the human subject, (b) detecting quantitatively or semi-quantitatively in the sample a level of expression for PKC-iota and (c) comparing the expression level in (b) to a level of expression in a normal control, wherein overexpression of PKC-iota, with respect to the control, indicates the presence of a glioma or meningioma in the subject. The present invention is based upon the discovery that PKC-iota levels are elevated during brain tumorigenesis. Furthermore, the proliferation rate of the tumor correlates with the level of PKC-iota. The invention also provides methods of treating gliomas and meningiomas by administering to the subject a compound that inhibits the expression of PKC-iota. The compound can be a small interfering RNA (siRNA) molecule