

**Technology**

Polyclonal antibody for diagnosis and/or prognosis of epithelial cancers

Inventor

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Key Features

- Increased specificity due to selection of a non-homologous region of the ERRP protein
- Minimally invasive and easy to perform
- Multiple applications including cancer diagnosis, cancer prognosis, and as a research tool

Stage of Development

Reduced to practice with successful demonstration in both in vitro and animal models

Keywords

- Diagnostic
- Cancer diagnosis
 - Prognosis
 - Epithelial cancer
 - Polyclonal antibody
 - Epithelial growth factor
 - Receptor related protein

Patent Status

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Antibodies to a Novel Epidermal Growth Factor Receptor Related Protein (VA Reference No. 01-110)

Novel polyclonal antibody used for diagnosis and prognosis of epithelial cancers

Technology

The Department of Veterans Affairs has developed a method of utilizing a novel polyclonal antibody against the epidermal growth factor-receptor related protein (ERRP) that can be used to diagnose predisposition for epithelial cancers, which include cancers of the lung, breast, prostate, pancreas, colon, bladder, and head and neck. The novel polyclonal antibody could also be useful for determining the prognosis of the disease as the level of the marker protein diminishes with the increasing metastatic nature of the disease.

Description

Malignant behavior of some tumors is sustained by deregulated activation of certain growth factor receptors. One of the best-studied receptor signaling systems is that controlled by epidermal growth factor receptor (EGFR), the expression and enzyme activity of which have been linked to a number of malignancies. Many cancers are associated with increased activation of EGFR. However, the VA has discovered that decreased levels of ERRP in colonic, prostate, and pancreatic cancers suggest an inverse relationship between EGFR activity and ERRP. This relationship leads to the production of a polyclonal antibody to the ERRP protein that can be used for diagnostic and prognostic applications.

Competitive Advantage

Antibody diagnostic tests such as the one VA has developed are minimally invasive, easy to perform, and employ well-established techniques.

This invention:

- Includes a region of the ERRP protein that showed no homology to other proteins.
- Represents a potentially useful diagnostic and prognostic marker.
- Can be used as a tool to allow researchers to study the functional properties of ERRP.

Status

The Department of Veterans Affairs is looking for a partner for further development and commercialization of this technology through a license, and the VA inventors are available to collaborate with interested companies through a Cooperative Research and Development Agreement (CRADA).