



# Novel Tumor Associated Antigen Variant For Renal Cell Carcinoma Diagnosis And Therapy

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## BACKGROUND

Renal cell carcinoma (RCC) affects approximately 39,000 Americans and causes an estimated 13,000 deaths per year. Metastatic RCC poses a therapeutic challenge because of its resistance to conventional modes of therapy. Approximately one third of RCC patients will present at the metastatic stage and one third of patients with localized disease will eventually progress to metastatic disease. The long-term survival for patients with metastatic RCC remains only 10-20%. New biomarkers that correlate with clinical outcome or identify patients with potentially aggressive disease can dramatically improve the diagnosis and management of RCC.

## INNOVATION

UCLA researchers have determined that Carbonic anhydrase IX (CAIX) expression levels are indicative of RCC prognosis and that CAIX is an excellent candidate for cancer immunotherapy. UCLA researchers have completed animal studies utilizing CAIX-GMCSF (cytokine) fusion proteins transduced into human dendritic cells. In addition, monoclonal antibody immunohistochemical analysis has demonstrated CAIX expression levels can stratify patients and is a significant molecular marker that can be used to predict clinical outcome and identify high risk patients in need of more aggressive treatment. More recently, UCLA researchers have discovered a novel human variant of the tumor associated antigen of CAIX isolated directly from human cancer tissues that may be superior for cancer immunotherapy.

## APPLICATIONS

- ▶ Dendritic cell therapy utilizing CAIX peptide
- ▶ Cancer vaccine
- ▶ Prognostic biomarker

## ADVANTAGES

CAIX variant may be a new composition of matter

## STATE OF DEVELOPMENT

Researchers have applied for additional funding through a RAID grant to produce CAIX for use in clinical trials.

## RELATED MATERIALS

- ▶ Carbonic anhydrase IX is an independent predictor of survival in advanced renal clear cell carcinoma: implications for prognosis and therapy. 2003 Clin Can Res 9: 802-811 Novel kidney cancer immunotherapy based on the granulocyte-macrophage colony-stimulating factor and carbonic anhydrase IX fusion gene. 2003 Clin Can Res 9:1906-1916 [more]

## PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	9,492,520	11/15/2016	2007-217
United States Of America	Issued Patent	9,322,010	04/26/2016	2007-217
United States Of America	Issued Patent	8,378,084	02/19/2013	2007-217

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## OTHER INFORMATION

### KEYWORDS

therapeutics diagnostics

### CATEGORIZED AS

- ▶ Medical
  - ▶ Diagnostics
  - ▶ Disease: Cancer
  - ▶ Therapeutics

### RELATED CASES

2007-217-0

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