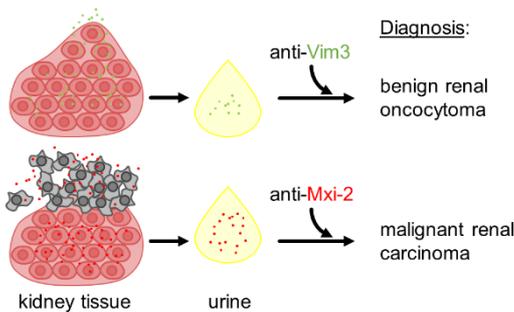


Vim3 and Mxi-2 antibodies

Non-invasive markers for diagnosis and differentiation of benign and malignant renal carcinoma

Invention

Kidney tumors are known to develop to benign (oncocytoma) and malignant (RCC) types. One diagnostic drawback about oncocytoma is their ability to mimic the morphology, histology, and imaging characteristics of RCC subtypes. In many cases, oncocytoma are even considered as RCC and vice versa unless proved otherwise. Since no specific, diagnostic and non-invasive tests exist for the differentiation of kidney tumors, it remains a challenge to set the right diagnosis and surgical intervention. The present invention provides antibodies that exclusively target the biomarkers Vimentin 3 (Vim3) and Mxi-2 from oncocytoma and RCC, respectively.



Commercial Opportunities

	Vim3 antibody	Mxi-2 antibody
Source/Isotype	Mouse IgG	Mouse IgG
Origin	mouse, monoclonal	mouse, monoclonal
Applications	ELISA, Immunohistology, Lateral Flow Test, Western Blot	ELISA, Immunohistology, Lateral Flow Test, Western Blot
Sample material	urine, kidney tissue	urine, kidney tissue
Indication	Renal benign oncocytoma	Malignant renal cell carcinoma
Reactivity	Human	Human
Sensitivity	85 %	84 %
Specificity	92 %	91 %

The antibodies can be used for the development of a diagnostic test system based on anti-Vim3 and anti-Mxi-2 wherein the detection of Vim3 would indicate the presence of oncocytoma and Mxi-2, the presence of RCC. The test system can additionally be accompanied with an ultrasonic examination if a tumour of cyst is suspected. Another option would be using the test system as part of the standard examination for preventive diagnostic purposes. Anti-Vim3 and anti-Mxi-2 are part of pending diagnostic patent applications for which a license is offered.

Current Status

Anti-Vim3 and anti-Mxi-2 have already been validated in studies.

	Vim3 antibody	Mxi-2 antibody
ELISA (urine samples)	900	900
Lateral Flow Test (urine samples)	60	60
ELISA before and after tumor surgery (urine samples)	50	50
Immunohistochemistry (tissue)	150	50

Relevant Publications

von Brandenstein, M., et al. (2021), J Clin Lab Anal, 35: e23762.

An invention of University of Cologne.

Competitive Advantages

- specific antibodies for the non-invasive diagnosis of kidney tumors
- clear diagnosis and differentiation of oncocytoma and RCC types allow targeted therapeutic measurements
- antibodies are also usable for non-invasive routine medical checkup (persons aged 55 and above)

Technology Readiness Level

123456789

Technology validated in relevant environment

Industries

- Diagnostics

Ref. No.

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