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# Kelch Like Family Member 11 (Klhl11) Autoantibodies As Markers Of Seminoma Associated Paraneoplastic Encephalitis In Men

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## INVENTORS

- ▶ DeRisi, Joseph L.
- ▶ Mandel-Brehm, Caleigh
- ▶ Wilson, Michael R.

## OTHER INFORMATION

### CATEGORIZED AS

- ▶ **Medical**
  - ▶ Diagnostics
- ▶ **Research Tools**
  - ▶ Antibodies
  - ▶ Reagents

### RELATED CASES

2019-036-0

INVENTION NOVELTY

Researchers at UCSF and Chan Zuckerberg Biohub have discovered a novel biomarker for an autoimmune disease that affects patients with testicular cancer. The disease, known as “testicular cancer-associated paraneoplastic encephalitis,” can cause severe neurological symptoms. The symptoms include loss of limb control, eye movement, and in some cases, speech. The disease begins with testicular cancer, which in some cases causes the immune system to attack the brain. Affected patients are often misdiagnosed and appropriate treatment is delayed.

VALUE PROPOSITION

- ▶ Autoantibodies to Kelch-like protein 11 are a specific biomarker for testicular cancer-associated paraneoplastic encephalitis
- ▶ Until the discovery of Kelch11 autoantibodies, there was no diagnostic marker for this disease
- ▶ Accurate diagnosis now allows appropriate and timely treatment

TECHNOLOGY DESCRIPTION

The inventors identified a highly specific and unique biomarker for the disease using programmable phage display. Using this powerful tool, the researchers evaluated cerebrospinal fluid from a 37-year-old patient who had a history of testicular cancer and debilitating neurological symptoms, including vertigo, imbalance and slurred speech. The enhanced phage technology identified autoantibodies targeting Kelch-like protein 11 (KLHL11) found in the testes and parts of the brain. These results were correlated and validated with additional patient samples.

STAGE OF DEVELOPMENT

Pre-clinical

RELATED MATERIALS

- ▶ [Mandel-Brehm et al., N Engl J Med 2019; 381:47-54](#)

DATA AVAILABILITY

Under CDA/NDA

PATENT STATUS

Country	Type	Number	Dated	Case
European Patent Office	Published Application			2019-036
Patent Cooperation Treaty	Reference for National Filings	<a href="#">WO 2020/190700</a>	09/24/2020	2019-036

Additional Patent Pending

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