Biomarkers for Port Wine Stain and Related Syndromes

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BRIEF DESCRIPTION

Innovative biomarkers enable improved diagnosis, prognosis, monitoring, and treatment of port wine stain (PWS) and related vascular malformations.

FULL DESCRIPTION

This technology involves the identification of specific pathogenic and serum extracellular vesicle (EV) biomarkers associated with vascular anomalies, such as port wine stain (PWS) and related syndromes. By profiling markers expressed on endothelial cells and exosomes, it enables the assessment of vascular malformations' development, progression, and response to therapies. The biomarkers provide critical insights into the immature endothelial phenotype in PWS and disrupted signaling pathways that contribute to lesion formation. The invention facilitates diagnosis, prognosis, monitoring, and innovative treatment options beyond conventional pulsed dye laser (PDL) therapy.

SUGGESTED USES

- Diagnosis and prognosis of port wine stain and related vascular syndromes
- Monitoring treatment efficacy and disease progression in clinical settings
- Development of biomarker-guided targeted therapies including small molecules and gene silencing
- Companion diagnostic tools for vascular anomaly treatment selection
- Pharmaceutical research to identify novel drug candidates that modulate endothelial biomarkers
- Personalized medicine approaches for patients with AVM, VM, SWS, KTWS, hemangioma, and related malformations

FEATURES/BENEFITS

- Highly specific biomarkers targeting endothelial cells and extracellular vesicles
- Enables accurate diagnosis and prognosis for vascular anomalies including PWS
- Provides tools for monitoring treatment effectiveness and disease progression
- Supports development of novel targeted therapies based on biomarker expression
- Overcomes limitations of current therapies that have variable and unpredictable outcomes
- Uses advanced proteomic techniques such as SWATH-MS for detailed biomarker profiling

STATE OF DEVELOPMENT

Technology resides in the initial stages characterizing the utility of the biomarkers.

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OTHER INFORMATION

CATEGORIZED AS

- **Medical**
  - Disease: Dermatology
- **Research Tools**
  - Other

RELATED CASES

2017-813-0

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Published Application	20190371471	12/05/2019	2017-813

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