

Dopamine D2 Receptor Biomarkers for Brain Dopamine Levels

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Executive Statement:

An innovative method for diagnosing and monitoring neurological and psychiatric conditions through a simple blood test.

Technology Overview:

This technology introduces a groundbreaking approach to measure brain dopamine levels indirectly by analyzing the expression of dopamine D2 receptors on monocytes in the blood. This method offers a non-invasive, cost-effective alternative to traditional positron emission tomography (PET) scans. Developed with NIH funding and managed by Brigham Young University's Technology Transfer Office, it employs a microfluidics device for precise measurement, paving the way for widespread clinical application.

Key Advantages:

- Non-invasive measurement of brain dopamine levels.
- Cost-effective alternative to PET scans.
- Scalable and precise through microfluidics technology.
- Potentially faster diagnosis and monitoring of diseases.
- Supports personalized treatment strategies in healthcare.

Problems Solved:

- High cost and invasiveness of current dopamine level measurement techniques.
- Lack of accessible diagnostics for neurological and psychiatric conditions.
- Difficulty in monitoring disease progression and treatment efficacy.

Market Applications:

- Diagnosis and monitoring of Parkinson's disease.
- Management of psychiatric disorders.
- Treatment and monitoring of addiction.
- Personalized medicine through objective measurement of treatment response.