Selective S1P1/S1P5 Modulation Impacts Neurologic Architecture/Function by Improving Kinematic Gait and Protecting From Neuronal Breaks in a Demyelinating Mouse Model

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**OBJECTIVE**

To assess the effects of ozanimod on motor function using the cuprizone-induced mouse model of demyelination

**METHODS**

- Efficacy of ozanimod on or ozanimod surrogate (RP-101074) was examined in the cuprizone-induced mouse model of demyelination
- C57BL/6 mice were treated over 6 weeks with cuprizone (0.3% weight/weight) and rapamycin (10 mg/kg intraperitoneally daily) to demyelinate axons in the brain and concurrently treated with ozanimod (0.1, 0.3, or 1 mg/kg) or RP-101074 (1 mg/kg) by daily oral gavage
- Analyses of individual parameters of kinematic gait, as well as overall kinematic gait score, were used to assess the impact of ozanimod on function

**RESULTS**

- Ozanimod Treatment Improved Multiple Parameters of Kinematic Gait
  - Ozanimod (1 mg/kg) improved kinematic gait in cuprizone-induced demyelinated mice compared with vehicle, demonstrating improved functional outcomes with ozanimod treatment
  - The altered gait parameters in vehicle-treated mice that significantly improved in ozanimod-treated mice included tail tip height, altered hip orientation, knee/ankle angle, and lower forelimb paw trajectory (Figure 1; scan QR code to access video content)

**OVERALL KINEMATIC GAIT SCORE IMPROVED WITH OZANIMOD TREATMENT**

- The addition of ozanimod (0.1, 0.3, or 1 mg/kg) was associated with significant improvements in overall kinematic gait score vs vehicle in cuprizone-treated mice (Figure 2)

**CONCLUSIONS**

- Ozanimod treatment mitigated the negative effects of cuprizone-induced demyelination on kinematic gait in mice

**REFERENCES**


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**DISCLOSURES**

Kristen R. Taylor Meadows, Kevin C. Dines, and Fiona L. Scott were employees of Celgene Corporation at the time these analyses were undertaken. Kevin C. Dines is an employee of and shareholder in Celgene Corporation.