Ozanimod vs Interferon β-1a: Clinical and MRI Results of RADIANCE Part B – A 2-Year Phase 3 Trial in Relapsing Multiple Sclerosis

**INTRODUCTION**

S1PR3 lymphocytes interact with a family of 5 high-affinity G protein-coupled receptors: S1P receptor 1 (S1PR1) through S1PR5.

Ozanimod is selective for S1PR1 and S1PR4 with high receptor affinity.

**Ozanimod targets critical S1PR3 lymphocytes from lymph node reducing numbers of lymphoid germinal centers.

**CCRF lymphocytes, important for viral and tumor surveillance, continue to circulate.

**METHODS**

RADIANCE Part B was a multicenter, randomized, double-blind, double-dummy, parallel-group, 1:1:1, the light-to-treatment-controlled phase 3 study of ozanimod 0.5 mg/day.

The primary end-point was the number of relapsed lesions over 24 months reduced by 43% in ozanimod groups versus IFN-β-1a.

Three month confirmed disability progression pre-specified as a pooled analysis of two phase 3 studies, RADIANCE Part B and SUNBEAM.

Methods used for all safety analyses.

**DISCUSSION**

Both ozanimod groups demonstrated superiority to IFN-β-1a on ARR and magnetic resonance imaging endpoints.

A dose response was consistently demonstrated across these efficacy endpoints.

Whole brain volume loss, cortical gray matter volume, and thalamic volume loss were slowed compared with IFN-β-1a.

Pooled analysis of 3 month confirmed disability progression had a very low event rate observed and did not reach statistical significance.

Overall, ozanimod was generally well tolerated.

No subjects had any confirmed disease worsening.

Infection risk with ozanimod was comparable to treatment with IFN-β-1a.

Adverse events were transient and generally resolved without study drug discontinuation.

These safety and efficacy results demonstrate a favorable benefits profile compared to IFN-β-1a.

**DISCLOSURES**

Conflict of interest declarations for all authors were collected and are available at the back of the issue.

**RESULTS**

**Figure 1. Cross-Image Display of S1PR Receptors**

**Figure 2. Study Design**

- Key inclusion criteria:
  - Age 18 to 55 years
  - MRI-defined MS groups
  - ≤1 documented relapse in the prior year or ≤1 documented relapse in prior 2 years and ≤1 in the prior year
  - Expanded Disability Status Scale score 2.0 and 5.0
  - Clinically stable, with no relapse or corticosteroid treatment 1 month prior to screening

- Key exclusion criteria:
  - Specific medical conditions, including recent myocardial infarction or stroke, prolonged Fridericia-correction QT interval
  - Feeding heart rate ≥50 beats per minute (bpm) at screening
  - Diabetes mellitus type 1 or uncontrolled diabetes mellitus type 2 with hemoglobin A1c >7%, or diabetic patients with significant co-morbidity (failure with controlled diabetes mellitus type 2 or vascular events were not excluded)

**Figure 3. Patient Disposition**

**Figure 5. Pooled Phase 3 Studies (RADIANCE and SUNBEAM) Time to 3-Month Confirmed Disability Progression**

**Figure 6. Brain Volume Loss Over 2 Years**

**Table 1. Demographics and Baseline Characteristics**

**Table 2. Summary of AEs**

**Table 3. Adverse Events in IFN-β-1a Groups**

**Table 4. Minimum Supine Heart Rate**

**Table 5. Infections**

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**LITERATURE**

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