My name is _____, and I am a (Medical Managed Care Director/Medical Science Liaison) at Sanofi Genzyme. I am here today to review clinical information for LEMTRADA® (alemtuzumab). I am presenting the LEMTRADA clinical efficacy and safety highlights. Please see the full prescribing information listed in the package insert to use LEMTRADA safely and effectively in patients.

LEMTRADA is a CD52-directed monoclonal antibody indicated for the treatment of patients with relapsing forms of multiple sclerosis (MS), to include relapsing-remitting disease and active secondary progressive disease, in adults. Because of its safety profile, the use of LEMTRADA should generally be reserved for patients who have had an inadequate response to 2 or more drugs indicated for the treatment of MS. LEMTRADA is not recommended for use in patients with clinically isolated syndrome (CIS) because of its safety profile. LEMTRADA is administered by intravenous infusion over 4 hours per day for 2 treatment courses: first course, 12 mg/d on 5 consecutive days; and second course, 12 mg/d on 3 consecutive days 12 months after the first course. Subsequent treatment courses of 12 mg/d on 3 consecutive days may be administered, as needed, at least 12 months after the last dose of any prior treatment course.

The precise mechanism by which LEMTRADA exerts its therapeutic effects is unknown, but it is presumed to involve binding to CD52, a cell surface antigen present on T and B lymphocytes, natural killer cells, monocytes, and macrophages. Following cell surface binding to T and B lymphocytes, LEMTRADA causes antibody-dependent cellular cytolysis and complement-mediated lysis.

The efficacy of LEMTRADA was demonstrated in 2 studies (Study 1 and 2) that evaluated LEMTRADA 12 mg in patients with relapsing-remitting multiple sclerosis (RRMS).

Study 1 was a 2-year, randomized, open-label, rater-blinded, active comparator–controlled (interferon beta-1a 44 µg administered subcutaneously 3 times a week) study in patients with RRMS. Patients entering Study 1 had an Expanded Disability Status Scale (EDSS) score of 5 or less and had to have experienced at least 1 relapse while receiving interferon beta or glatiramer acetate therapy. The study found that the annualized relapse rate was significantly lower in patients treated with LEMTRADA than in patients who received interferon beta-1a. Time to onset of 6-month confirmed disability progression was significantly delayed with LEMTRADA treatment compared with interferon beta-1a. There was no significant difference between the treatment groups for the change in T2 lesion volume.

Study 2 was a 2-year, randomized, open-label, rater-blinded, active comparator–controlled (interferon beta-1a 44 µg administered subcutaneously 3 times a week) study in patients with RRMS. Patients entering Study 2 had an EDSS score of 3 or less and no prior treatment for MS. The annualized relapse rate was significantly lower in patients treated with LEMTRADA than in patients who received interferon beta-1a. There was no significant difference between the treatment groups for the time to confirmed disability progression and for the change in T2 lesion volume.

LEMTRADA has a boxed warning for serious, sometimes fatal autoimmune conditions such as immune thrombocytopenia and anti-glomerular basement membrane disease. LEMTRADA causes serious and life-threatening infusion reactions and must be administered in an appropriate setting. Serious and life-threatening stroke and cases of cervicocephalic arterial dissection involving multiple arteries have been reported within 3

days of LEMTRADA administration. LEMTRADA may cause an increased risk of malignancies, including thyroid cancer, melanoma, and lymphoproliferative disorders. Because of the risk of autoimmunity, infusion reactions, and malignancies, LEMTRADA is available only through restricted distribution under a Risk Evaluation Mitigation Strategy (REMS) Program.

LEMTRADA is contraindicated in patients who are infected with human immunodeficiency virus.

The most common adverse reactions observed in controlled clinical trials with LEMTRADA (incidence ≥10% and > interferon beta-1a) include rash, headache, pyrexia, nasopharyngitis, nausea, urinary tract infection, fatigue, insomnia, upper respiratory tract infection, herpes viral infection, urticaria, pruritus, thyroid gland disorders, fungal infection, arthralgia, pain in extremity, back pain, diarrhea, sinusitis, oropharyngeal pain, paresthesia, dizziness, abdominal pain, flushing, and vomiting.

Patients should have the following laboratory tests at baseline and monthly following the first course of treatment and continue until 48 months, or longer, after the last treatment course of LEMTRADA in order to monitor for early signs of potentially serious adverse effects: complete blood count (CBC) with differential, serum creatinine levels, and urinalysis with urine cell counts.

A test of thyroid function, such as thyroid stimulating hormone (TSH) level should be performed prior to treatment initiation then every 3 months thereafter.

Serum transaminases (alanine aminotransferase [ALT] and aspartate aminotransferase [AST]) and total bilirubin levels should be measured prior to treatment initiation and periodically thereafter.

Urine protein to creatinine ratio should be measured prior to initiation of treatment.

Baseline and yearly skin examinations should be performed to monitor for melanoma.

Please refer to the Package Insert for additional Important Safety information and complete LEMTRADA prescribing information, including boxed warning. Thank you for your consideration and I would be happy to answer any questions you may have.

MAT-US-2007172
Approved: June 2020