To estimate the **Potential Peak Sales** for **obecabtagene autoleucel (Aucatzyl)** in the indication of relapsed or refractory B-cell precursor acute lymphoblastic leukemia (ALL) in the US, EU5 (Germany, France, Italy, Spain, UK), China, and Japan, as well as the **$ value of a 1% share of treated patients** in these geographies, we need to follow a structured approach. Since specific data on pricing, patient population, and market penetration may not be fully available, I will make reasonable assumptions based on publicly available information, CAR-T therapy pricing trends, and epidemiology data for ALL. Let's break this down step by step.

Step 1: Key Assumptions and Inputs

1. **Target Patient Population (Relapsed/Refractory B-ALL):**

- B-cell precursor ALL is a rare hematologic malignancy. The relapsed/refractory (R/R) population is a subset of ALL patients who fail initial therapies.

- Incidence and prevalence data for R/R B-ALL vary by region, but we can estimate based on general ALL epidemiology and relapse rates (approximately 40-50% of adult ALL patients relapse).

- Estimated number of R/R B-ALL patients eligible for CAR-T therapy (adults):

- **US**: ~1,000–1,500 patients annually (based on ~3,000 adult ALL cases, with ~40-50% relapse rate).

- **EU5**: ~1,200–1,800 patients annually (based on ~3,500–4,000 adult ALL cases across EU5).

- **China**: ~2,000–3,000 patients annually (based on higher incidence due to larger population, ~6,000–8,000 adult ALL cases).

- **Japan**: ~300–500 patients annually (based on ~1,000 adult ALL cases).

- Total addressable patient population across these regions: ~4,500–6,800 patients annually.

2. **Market Penetration (20% to 30% Share of Treated Patients):**

- As per the query, we assume obecabtagene autoleucel captures 20% to 30% of the treated R/R B-ALL patient population in these geographies.

- Note: Not all eligible patients may receive CAR-T therapy due to cost, access, or clinical suitability.

3. **Pricing of Obecabtagene Autoleucel:**

- CAR-T therapies like Kymriah and Yescarta are priced at ~$373,000–$475,000 per treatment in the US. Pricing in other regions is typically lower due to healthcare system differences.

- Assumed pricing per treatment:

- **US**: $400,000

- **EU5**: $300,000 (lower due to price negotiations and reimbursement policies)

- **China**: $200,000 (emerging market pricing, limited reimbursement)

- **Japan**: $350,000 (similar to US but adjusted for local market)

4. **Peak Sales Timeline:**

- Peak sales are typically achieved 5–7 years post-launch, assuming full market access and adoption.

Step 2: Calculation of Potential Peak Sales

We will calculate peak sales based on the number of treated patients (at 20% and 30% market share) multiplied by the price per treatment in each region.

US:

- Eligible patients: 1,000–1,500
- 20% share: 200–300 patients treated
- 30% share: 300–450 patients treated
- Price per treatment: $400,000
- **Peak Sales (20% share):** 200–300 patients * $400,000 = **$80M–$120M**
- **Peak Sales (30% share):** 300–450 patients * $400,000 = **$120M–$180M**

EU5:

- Eligible patients: 1,200–1,800
- 20% share: 240–360 patients treated
- 30% share: 360–540 patients treated
- Price per treatment: $300,000
- **Peak Sales (20% share):** 240–360 patients * $300,000 = **$72M–$108M**
- **Peak Sales (30% share):** 360–540 patients * $300,000 = **$108M–$162M**

China:

- Eligible patients: 2,000–3,000
- 20% share: 400–600 patients treated
- 30% share: 600–900 patients treated
- Price per treatment: $200,000
- **Peak Sales (20% share):** 400–600 patients * $200,000 = **$80M–$120M**
- **Peak Sales (30% share):** 600–900 patients * $200,000 = **$120M–$180M**

Japan:

- Eligible patients: 300–500
- 20% share: 60–100 patients treated
- 30% share: 90–150 patients treated
- Price per treatment: $350,000

- **Peak Sales (20% share):** 60–100 patients * $350,000 = **$21M–$35M**

- **Peak Sales (30% share):** 90–150 patients * $350,000 = **$31.5M–$52.5M**

Total Potential Peak Sales Across All Geographies:

- **20% Share:** $80M–$120M (US) + $72M–$108M (EU5) + $80M–$120M (China) + $21M–$35M (Japan) = **$253M–$383M**

- **30% Share:** $120M–$180M (US) + $108M–$162M (EU5) + $120M–$180M (China) + $31.5M–$52.5M (Japan) = **$379.5M–$574.5M**

Thus, the **Potential Peak Sales** for obecabtagene autoleucel in R/R B-ALL across the US, EU5, China, and Japan are approximately:

- **$253M–$383M at 20% market share**

- **$379.5M–$574.5M at 30% market share**

Step 3: $ Value of 1% Share of Treated Patients

A 1% share corresponds to 1% of the eligible patient population treated with obecabtagene autoleucel in each geography. We calculate the revenue generated by treating 1% of the eligible patients at the assumed pricing.

US:

- Eligible patients: 1,000–1,500

- 1% share: 10–15 patients

- Price per treatment: $400,000

- **Value of 1% share:** 10–15 patients * $400,000 = **$4M–$6M**

EU5:

- Eligible patients: 1,200–1,800

- 1% share: 12–18 patients

- Price per treatment: $300,000

- **Value of 1% share:** 12–18 patients * $300,000 = **$3.6M–$5.4M**

China:

- Eligible patients: 2,000–3,000

- 1% share: 20–30 patients

- Price per treatment: $200,000

- **Value of 1% share:** 20–30 patients * $200,000 = **$4M–$6M**

Japan:

- Eligible patients: 300–500

- 1% share: 3–5 patients

- Price per treatment: $350,000

- **Value of 1% share:** 3–5 patients * $350,000 = **$1.05M–$1.75M**

Total Value of 1% Share Across All Geographies:

- $4M–$6M (US) + $3.6M–$5.4M (EU5) + $4M–$6M (China) + $1.05M–$1.75M (Japan) = **$12.65M–$19.15M**

Thus, the **$ value of a 1% share of treated patients** across the US, EU5, China, and Japan is approximately **$12.65M–$19.15M**.

Final Answer

1. **Potential Peak Sales for Obecabtagene Autoleucel in R/R B-ALL:**

- At 20% market share: **$253M–$383M**

- At 30% market share: **$379.5M–$574.5M**

2. **$ Value of 1% Share of Treated Patients:**

- **$12.65M–$19.15M** across the US, EU5, China, and Japan.

Note: These estimates are based on assumptions regarding patient population, pricing, and market penetration. Actual figures may vary depending on real-world data, reimbursement policies, competition (e.g., other CAR-T therapies like Kymriah), and market access challenges. If more specific data on pricing or epidemiology becomes available, these calculations can be refined further.