

To estimate the **Potential Peak Sales** for atezolizumab (Tecentriq) in the indication of unresectable or metastatic alveolar soft part sarcoma (ASPS) in the US, EU5 (France, Germany, Italy, Spain, UK), China, and Japan, as well as the **\$ value of a 1% share of treated patients** in these geographies, we need to make several assumptions and calculations based on available data and reasonable estimates. Since exact figures for patient populations, pricing, and market penetration are not publicly available in full detail, the following analysis uses a structured approach with realistic assumptions.

Step 1: Background on Alveolar Soft Part Sarcoma (ASPS)

- **ASPS** is a rare soft tissue sarcoma, primarily affecting adolescents and young adults, with an incidence of approximately **0.5–1 case per million people per year**.
- It often presents as unresectable or metastatic at diagnosis, making systemic therapies like atezolizumab critical.
- Atezolizumab, a PD-L1 inhibitor, was approved by the FDA in December 2022 for this indication, representing a novel treatment option for a condition with limited therapies.

Step 2: Estimate the Patient Population

Since ASPS is rare, we will estimate the **prevalent patient population** eligible for treatment (unresectable or metastatic cases) in each geography. The incidence and prevalence data for ASPS are scarce, so we use approximations based on global cancer statistics and population sizes.

- **US**: Population ~330 million. Estimated ASPS incidence ~0.5–1 per million → ~165–330 new cases/year. Assuming 50% are unresectable/metastatic and a prevalence duration of 5 years (due to chronicity of advanced disease), prevalent cases ≈ 400–800 patients.
- **EU5**: Population ~260 million. Similar incidence → ~130–260 new cases/year. Prevalent unresectable/metastatic cases ≈ 300–600 patients.
- **China**: Population ~1.4 billion. Incidence may be slightly lower due to underdiagnosis, assume ~0.3–0.5 per million → ~420–700 new cases/year. Prevalent cases ≈ 1,000–1,750 patients.
- **Japan**: Population ~125 million. Incidence ~0.5–1 per million → ~60–125 new cases/year. Prevalent cases ≈ 150–300 patients.

Total Prevalent Unresectable/Metastatic ASPS Patients (midpoint estimate):

- US: ~600 patients
- EU5: ~450 patients
- China: ~1,375 patients
- Japan: ~225 patients
- **Total across geographies**: ~2,650 patients

Step 3: Estimate Treated Patient Share

The query assumes a **20% to 30% share of treated patients** for atezolizumab. This accounts for competition, access to therapy, and physician/patient preference. Using the midpoint of 25%:

- Treated Patients:

- US: $600 \times 25\% = 150$ patients
- EU5: $450 \times 25\% = 113$ patients
- China: $1,375 \times 25\% = 344$ patients
- Japan: $225 \times 25\% = 56$ patients
- **Total:** ~663 patients

Step 4: Estimate Annual Drug Cost per Patient

Atezolizumab pricing varies by region due to differences in healthcare systems, negotiations, and access programs. Based on publicly available data for other indications (e.g., lung cancer, bladder cancer):

- **US:** ~\$12,500 per month for atezolizumab (based on IV dosing every 2–3 weeks). Annual cost ≈ \$150,000 per patient.
- **EU5:** Pricing is typically lower due to negotiations. Assume ~\$100,000 per patient/year.
- **China:** Pricing is significantly lower due to market access programs and generics/biosimilars. Assume ~\$30,000 per patient/year.
- **Japan:** Pricing is moderate, similar to EU. Assume ~\$100,000 per patient/year.

Step 5: Calculate Potential Peak Sales

Peak sales are calculated as **number of treated patients × annual cost per patient** for each geography.

- **US:** $150 \text{ patients} \times \$150,000 = \$22.5 \text{ million}$
- **EU5:** $113 \text{ patients} \times \$100,000 = \$11.3 \text{ million}$
- **China:** $344 \text{ patients} \times \$30,000 = \$10.3 \text{ million}$
- **Japan:** $56 \text{ patients} \times \$100,000 = \$5.6 \text{ million}$
- **Total Peak Sales:** $\$22.5\text{M} + \$11.3\text{M} + \$10.3\text{M} + \$5.6\text{M} = \$49.7 \text{ million}$

Range for Peak Sales (using 20% to 30% treated share):

- At 20% share: ~\$39.8 million
- At 30% share: ~\$59.6 million
- **Midpoint (25%):** ~\$49.7 million

Step 6: Calculate \$ Value of 1% Share of Treated Patients

A 1% share of treated patients corresponds to 1% of the total prevalent patient population being treated with atezolizumab. Using the total prevalent patients (~2,650):

- **Patients for 1% share:** $2,650 \times 1\% = 26.5$ patients
- **Breakdown by geography** (based on proportion of total patients):
 - US: $600/2,650 \times 26.5 \approx 6$ patients
 - EU5: $450/2,650 \times 26.5 \approx 4.5$ patients
 - China: $1,375/2,650 \times 26.5 \approx 13.8$ patients
 - Japan: $225/2,650 \times 26.5 \approx 2.2$ patients
- **Revenue for 1% share** (using annual cost per patient):
 - US: 6 patients \times \$150,000 = **\$0.9 million**
 - EU5: 4.5 patients \times \$100,000 = **\$0.45 million**
 - China: 13.8 patients \times \$30,000 = **\$0.41 million**
 - Japan: 2.2 patients \times \$100,000 = **\$0.22 million**
- **Total Value of 1% Share:** \$0.9M + \$0.45M + \$0.41M + \$0.22M = **\$1.98 million**

Final Answer

- **Potential Peak Sales for Atezolizumab in ASPS** (assuming 20%–30% treated patient share):
 - Range: **\$39.8 million to \$59.6 million**
 - Midpoint (25% share): **\$49.7 million**
- **\$ Value of 1% Share of Treated Patients: \$1.98 million**

Caveats

- These estimates are based on assumptions about patient prevalence, treatment share, and pricing. Real-world data may vary due to access barriers, competition from other therapies, and regional pricing differences.
- ASPS is an ultra-rare disease, so peak sales are modest compared to other oncology indications for atezolizumab.
- Pricing in China is highly variable due to government negotiations and inclusion in the National Reimbursement Drug List (NRDL), which could lower costs further.

If you have specific data on patient numbers, pricing, or market share, I can refine these calculations further.