

To estimate the **Potential Peak Sales** for dostarlimab-gxly (Jemperli) in the indication of mismatch repair deficient (dMMR) recurrent or advanced solid tumors 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 make several assumptions and follow a structured approach. Since specific data on patient populations, pricing, and market penetration may not be publicly available, I will outline the methodology and use reasonable estimates based on available information and industry benchmarks.

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## **Key Assumptions and Methodology**

**1. Indication and Patient Population:** Dostarlimab-gxly is approved for adult patients with dMMR recurrent or advanced solid tumors who have progressed on or following prior treatment and have no satisfactory alternative treatment options. dMMR tumors are a subset of solid tumors, often associated with cancers like endometrial, colorectal, and gastric cancers. Approximately 5-10% of solid tumors are estimated to be dMMR.

**2. Market Share:** The problem states a 20-30% share of treated patients. We will calculate peak sales for this range and use the midpoint (25%) for some illustrative calculations.

**3. Geographies:** US, EU5 (combined), China, and Japan. These are major pharmaceutical markets with varying patient access, pricing, and reimbursement landscapes.

**4. Pricing:** Drug pricing varies by region. Dostarlimab-gxly is a PD-1 inhibitor, and pricing for similar drugs (e.g., pembrolizumab or nivolumab) can be used as a benchmark:

- US: ~\$150,000 per patient per year (based on typical oncology drug pricing for PD-1 inhibitors).
- EU5: ~\$80,000-\$100,000 per patient per year (lower due to price negotiations and reimbursement).
- Japan: ~\$100,000 per patient per year (similar to EU5 but varies by indication).
- China: ~\$30,000-\$50,000 per patient per year (lower due to pricing controls and generics competition).

**5. Treatment Duration:** Assuming an average treatment duration of 1 year per patient (common for advanced cancer therapies).

**6. Patient Population:** Estimating the number of eligible patients with dMMR recurrent or advanced solid tumors:

- US: ~15,000-20,000 patients annually (based on cancer incidence and dMMR prevalence).
- EU5: ~20,000-25,000 patients annually (larger population but similar prevalence).
- Japan: ~5,000-7,000 patients annually (smaller population).
- China: ~30,000-40,000 patients annually (large population but lower access to advanced therapies).

**7. Market Penetration:** Not all eligible patients will receive the drug due to access, cost, and competition. Assuming 20-30% of eligible patients are treated with dostarlimab-gxly.

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## **Step 1: Estimate Eligible Treated Patients and Peak Sales**

We calculate the number of treated patients (20-30% of eligible) and multiply by the estimated annual cost per patient to derive peak sales.

### **#### US**

- Eligible patients: 15,000-20,000
- Treated patients (20-30%): 3,000-6,000
- Annual cost per patient: \$150,000
- Peak sales (20% share):  $3,000 \times \$150,000 = \text{\$450 million}$
- Peak sales (30% share):  $6,000 \times \$150,000 = \text{\$900 million}$

### **#### EU5**

- Eligible patients: 20,000-25,000
- Treated patients (20-30%): 4,000-7,500
- Annual cost per patient: \$90,000 (average)
- Peak sales (20% share):  $4,000 \times \$90,000 = \text{\$360 million}$
- Peak sales (30% share):  $7,500 \times \$90,000 = \text{\$675 million}$

### **#### Japan**

- Eligible patients: 5,000-7,000
- Treated patients (20-30%): 1,000-2,100
- Annual cost per patient: \$100,000
- Peak sales (20% share):  $1,000 \times \$100,000 = \text{\$100 million}$
- Peak sales (30% share):  $2,100 \times \$100,000 = \text{\$210 million}$

### **#### China**

- Eligible patients: 30,000-40,000
- Treated patients (20-30%): 6,000-12,000
- Annual cost per patient: \$40,000 (average)
- Peak sales (20% share):  $6,000 \times \$40,000 = \text{\$240 million}$
- Peak sales (30% share):  $12,000 \times \$40,000 = \text{\$480 million}$

### **#### Total Peak Sales Across Geographies**

- At 20% share: \$450M (US) + \$360M (EU5) + \$100M (Japan) + \$240M (China) = **\$1.15 billion**
- At 30% share: \$900M (US) + \$675M (EU5) + \$210M (Japan) + \$480M (China) = **\$2.265 billion**

**Potential Peak Sales Range: \$1.15 billion to \$2.265 billion** annually across the US, EU5, Japan, and China for this indication.

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## **Step 2: \$ Value of 1% Share of Treated Patients**

To calculate the value of a 1% share of treated patients, we divide the number of treated patients by 100 and multiply by the annual cost per patient.

### **#### US**

- Treated patients (midpoint of 20-30% range, i.e., 25%):  $(15,000 + 20,000)/2 \times 0.25 = 4,375$
- 1% of treated patients:  $4,375 / 100 = 43.75$  patients
- Value of 1% share:  $43.75 \times \$150,000 = \mathbf{\$6.56 \text{ million}}$

### **#### EU5**

- Treated patients (midpoint of 20-30% range, i.e., 25%):  $(20,000 + 25,000)/2 \times 0.25 = 5,625$
- 1% of treated patients:  $5,625 / 100 = 56.25$  patients
- Value of 1% share:  $56.25 \times \$90,000 = \mathbf{\$5.06 \text{ million}}$

### **#### Japan**

- Treated patients (midpoint of 20-30% range, i.e., 25%):  $(5,000 + 7,000)/2 \times 0.25 = 1,500$
- 1% of treated patients:  $1,500 / 100 = 15$  patients
- Value of 1% share:  $15 \times \$100,000 = \mathbf{\$1.5 \text{ million}}$

### **#### China**

- Treated patients (midpoint of 20-30% range, i.e., 25%):  $(30,000 + 40,000)/2 \times 0.25 = 8,750$
- 1% of treated patients:  $8,750 / 100 = 87.5$  patients
- Value of 1% share:  $87.5 \times \$40,000 = \mathbf{\$3.5 \text{ million}}$

### **#### Total Value of 1% Share Across Geographies**

- US: \$6.56M
- EU5: \$5.06M
- Japan: \$1.5M
- China: \$3.5M
- Total:  $\$6.56M + \$5.06M + \$1.5M + \$3.5M = \mathbf{\$16.62 \text{ million}}$

**\$ Value of 1% Share of Treated Patients:** Approximately **\$16.62 million** annually across the US, EU5, Japan, and China.

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## **Summary**

1. **Potential Peak Sales for Dostarlimab-gxly** in the dMMR recurrent or advanced solid tumor indication (20-30% market share):

- Range: **\$1.15 billion to \$2.265 billion** annually across the US, EU5, Japan, and China.

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

- Approximately **\$16.62 million** annually across the same geographies.

## **Caveats**

- These estimates are based on assumptions about patient populations, pricing, and market penetration. Real-world data may differ due to competition (e.g., other PD-1 inhibitors like pembrolizumab), reimbursement policies, and patient access.

- The indication is for a niche population (dMMR tumors with no alternative options), which limits the total addressable market compared to broader oncology indications.

- Peak sales may take several years to achieve due to gradual market uptake and regulatory approvals in different regions.

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