

To estimate the **Potential Peak Sales** for **adagrasib (Krazati)** in the indication of KRAS G12C-mutated locally advanced or metastatic non-small cell lung cancer (NSCLC) 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 such as exact patient numbers, pricing, or market penetration might not be publicly available, I will outline the methodology and make reasonable assumptions based on general market trends, epidemiology, and drug pricing in oncology.

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## **Step 1: Define the Target Patient Population**

- **Indication:** KRAS G12C-mutated locally advanced or metastatic NSCLC in patients who have received at least one prior systemic therapy.
- **Mutation Prevalence:** KRAS G12C mutation occurs in approximately 12-14% of NSCLC patients (based on published literature).
- **NSCLC Incidence:** Using epidemiology data for NSCLC in the specified regions (US, EU5, China, Japan), we estimate the total number of NSCLC patients and then calculate the subset with KRAS G12C mutation.
- **Eligible Patients:** Focus on advanced/metastatic NSCLC patients (Stage IIIB-IV), which typically account for ~60-70% of NSCLC cases, and further narrow to those who have received prior therapy (second-line or later).

#### Estimated NSCLC Incidence (2023, approximate annual new cases):

- **US:** ~230,000 new NSCLC cases (American Cancer Society).
- **EU5:** ~320,000 new NSCLC cases (based on GLOBOCAN and regional data).
- **China:** ~800,000 new NSCLC cases (high incidence due to smoking and pollution).
- **Japan:** ~120,000 new NSCLC cases (GLOBOCAN data).

#### KRAS G12C Mutation and Eligible Population:

- KRAS G12C mutation: ~13% of NSCLC cases.
- Advanced/metastatic (Stage IIIB-IV): ~65% of cases.
- Second-line or later (prior therapy): Assume ~50% of advanced/metastatic patients progress to second-line.

**Estimated KRAS G12C-mutated, advanced/metastatic, second-line NSCLC patients**  
(approximate):

- **US:**  $230,000 * 0.13 * 0.65 * 0.5 = \sim 9,700$  patients.
- **EU5:**  $320,000 * 0.13 * 0.65 * 0.5 = \sim 13,500$  patients.
- **China:**  $800,000 * 0.13 * 0.65 * 0.5 = \sim 33,800$  patients.
- **Japan:**  $120,000 * 0.13 * 0.65 * 0.5 = \sim 5,100$  patients.
- **Total:** ~62,100 patients across all geographies.

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## **Step 2: Estimate Market Share**

- The problem assumes a **20% to 30% share of treated patients** for adagrasib.
- For peak sales calculation, we'll use the midpoint of **25% market share**.
- **Treated Patients with Adagrasib** (25% share):
- **US:**  $9,700 * 0.25 = \sim 2,425$  patients.
- **EU5:**  $13,500 * 0.25 = \sim 3,375$  patients.
- **China:**  $33,800 * 0.25 = \sim 8,450$  patients.
- **Japan:**  $5,100 * 0.25 = \sim 1,275$  patients.
- **Total:**  $\sim 15,525$  patients.

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## **Step 3: Estimate Annual Drug Cost per Patient**

Adagrasib is a targeted oncology drug, and pricing for such therapies is high, especially in developed markets. We assume:

- **US:** Annual cost  $\sim \$240,000$  per patient (based on pricing of similar drugs like sotorasib [Lumakras], which costs  $\sim \$20,000/\text{month}$ ).
- **EU5:** Annual cost  $\sim \$180,000$  per patient (lower due to price negotiations and healthcare systems).
- **Japan:** Annual cost  $\sim \$200,000$  per patient (similar to US but with some discounts).
- **China:** Annual cost  $\sim \$100,000$  per patient (significantly lower due to market access challenges, pricing regulations, and local competition).

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## **Step 4: Calculate Potential Peak Sales**

Peak sales are calculated as: **Number of treated patients \* Annual cost per patient.**

- **US:**  $2,425 \text{ patients} * \$240,000 = \text{\$582 million}.$
- **EU5:**  $3,375 \text{ patients} * \$180,000 = \text{\$607.5 million}.$
- **China:**  $8,450 \text{ patients} * \$100,000 = \text{\$845 million}.$
- **Japan:**  $1,275 \text{ patients} * \$200,000 = \text{\$255 million}.$
- **Total Peak Sales:**  $\text{\$582M} + \text{\$607.5M} + \text{\$845M} + \text{\$255M} = \sim \text{\$2.29 billion}.$

#### Range of Peak Sales (20% to 30% market share):

- **20% share** (lower end): Total treated patients = ~12,420 \* respective costs = **~\$1.83 billion**.

- **30% share** (upper end): Total treated patients = ~18,630 \* respective costs = **~\$2.75 billion**.

Thus, **Potential Peak Sales** for adagrasib in this indication across the US, EU5, China, and Japan are in the range of **\$1.83 billion to \$2.75 billion**, with a midpoint of **~\$2.29 billion**.

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### **Step 5: Calculate \$ Value of 1% Share of Treated Patients**

A 1% share of treated patients corresponds to 1% of the total eligible patient population in each geography.

- **US**: 9,700 patients \* 0.01 = 97 patients \* \$240,000 = **\$23.3 million**.

- **EU5**: 13,500 patients \* 0.01 = 135 patients \* \$180,000 = **\$24.3 million**.

- **China**: 33,800 patients \* 0.01 = 338 patients \* \$100,000 = **\$33.8 million**.

- **Japan**: 5,100 patients \* 0.01 = 51 patients \* \$200,000 = **\$10.2 million**.

- **Total \$ Value of 1% Share**: \$23.3M + \$24.3M + \$33.8M + \$10.2M = **\$91.6 million**.

Thus, the **\$ value of a 1% share of treated patients** across the US, EU5, China, and Japan is approximately **\$91.6 million**.

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### **Final Answer:**

1. **Potential Peak Sales for Adagrasib** (20% to 30% market share):

- Range: **\$1.83 billion to \$2.75 billion**.

- Midpoint: **~\$2.29 billion**.

- Breakdown by geography (at 25% share):

- US: **\$582 million**.

- EU5: **\$607.5 million**.

- China: **\$845 million**.

- Japan: **\$255 million**.

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

- Total: **\$91.6 million**.

- Breakdown by geography:

- US: **\$23.3 million**.

- EU5: **\$24.3 million**.

- China: **\$33.8 million.**

- Japan: **\$10.2 million.**

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### **Notes and Assumptions:**

- These calculations are based on approximate epidemiology data, mutation prevalence, and pricing estimates for targeted oncology drugs. Actual numbers may vary based on real-world market dynamics, competition (e.g., sotorasib), pricing negotiations, and patient access.

- Peak sales assume stable market share and no significant disruption from competitors or new therapies during the peak period.

- Treatment duration is assumed to be one year for simplicity; actual duration may vary based on progression-free survival and real-world evidence.

- If more specific data (e.g., exact patient numbers, pricing, or market share projections) is available, these estimates can be refined.