NEXT STEP:

It sounds like you’ve successfully generated an additional file, `approved\_drugs.csv`, which is a great addition to your analysis! Here's a breakdown of how you can use each file, including `approved\_drugs.csv`:

### 1. \*\*`drug\_summary.csv`\*\*

- \*\*Purpose\*\*: Summarizes each drug, the genes it targets, and the count of those target genes.

- \*\*Use Case\*\*: Identify drugs that have a broader impact by targeting multiple genes. These may offer more robust therapeutic potential or target overlapping pathways relevant to your condition.

### 2. \*\*`summary\_by\_approval.csv`\*\*

- \*\*Purpose\*\*: Summarizes drugs by their regulatory approval status.

- \*\*Use Case\*\*: Focus on approved drugs, as these are already validated for safety in humans. This file helps you quickly filter out experimental or investigational drugs if regulatory status is important for your research.

### 3. \*\*`summary\_by\_indication.csv`\*\*

- \*\*Purpose\*\*: Categorizes drugs based on their therapeutic indication (e.g., cancer, immunotherapy).

- \*\*Use Case\*\*: Look for drugs indicated for conditions related to your study (e.g., cancer-related drugs for AML). These drugs may be easier to repurpose, as their mechanisms might already align with your research goals.

### 4. \*\*`approved\_drugs.csv`\*\*

- \*\*Purpose\*\*: A subset of `drug\_summary.csv` or your DGIdb data focusing exclusively on drugs with "Approved" regulatory status.

- \*\*Use Case\*\*: Narrow your focus to drugs with known safety profiles. Approved drugs are the most feasible candidates for repurposing, especially for clinical applications.

### Next Steps for Each File

1. \*\*Cross-Reference\*\*:

- Compare `approved\_drugs.csv` with `summary\_by\_indication.csv` to find approved drugs with relevant indications.

2. \*\*Literature Review\*\*:

- For each drug in `approved\_drugs.csv`, perform a literature search to better understand its action mechanism, possible side effects, and efficacy in related conditions.

3. \*\*Focus on High-Impact Candidates\*\*:

- Prioritize drugs that are both approved and indicated for related conditions, especially if they also target multiple genes from `drug\_summary.csv`.

4. \*\*Functional Analysis (Optional)\*\*:

- If desired, run a functional or pathway analysis for genes targeted by these drugs. This can offer insights into biological processes that might be therapeutically relevant.

These files and steps should give you a solid foundation to identify and analyze potential drug repurposing candidates for your research. Let me know if you need further guidance on any specific analysis!