

Frequently Asked Questions about ChiroSolv™ Kits

1. What are ChiroSolv™ Kits?

ChiroSolv™ Kits are high-throughput, disposable kits that allow rapid screening to find the optimum resolution method for a given racemate. You can screen 288 combinations of resolving agents and solvents (using either the three acid kits or three base kits) against your racemate to identify the best combination that would give the maximum yield and highest optical rotation after crystallization. The entire process takes less than 24 hours.

2. Will the kits tell me what resolution process to use during manufacturing?

ChiroSolv™ Kits allow you to identify 2 or 3 best resolution processes that can probably be scaled up for manufacturing. You will still need to do bench-top scale-up (5 to 10 grams) of those processes to verify and identify the best process. However, the chemicals in the kits are chosen with manufacturing in mind: readily available and inexpensive.

3. Will the kits always give results? Can you guarantee I will get results?

The combination of the three kits in each series can identify the best resolution method out of 288 possibilities. There is a high probability that, yes, you will always get results.

4. What results do the kits give? How do I measure the success of the experiment?

ChiroSolv™ Kits identify the best resolution process out of 288 possibilities (each process is represented by one resolving agent–solvent combination). They allow you to narrow down the possibilities to 2 or 3 best processes.

5. What enantiomeric purity (ee) do the kits give?

ChiroSolv™ Kits are used to identify the best resolution method for a racemic sample – i.e., they tell you which resolving agent–solvent combination will give the maximum yield as well as high specific rotation. You then have to do bench-top scale-up to identify what ee you can get, and whether further purification steps will be required.

6. How do I choose the right kit? Which is the best kit for my racemate?

If your racemate is an acid, alcohol, aldehyde, ketone, or amino acid (with a protected amine group) you will need to use the base kits B1, B2, or B3. However, for a comprehensive screening, and to get the best results, we advise that you use all three base kits.

If your racemate is a base or amino acid (with a protected carboxyl group), you will need to use the acid kits A1, A2, or A3. However, for a comprehensive screening, and to get the best results, we advise that you use all three acid kits.

7. If I have a base racemate, which of the acid kits (A1, A2, or A3) should I use?

You must decide if you want to screen against 288 combinations (using all three kits) or just 96 combinations (using one kit). You will typically want to identify a resolution process for both the (+) and (–) enantiomers.

8. How many total kits do I need per racemate?

Typically, customers use two sets of 3 kits per racemate: one set (all 3 kits from one series) to do the initial screening, and then they repeat the experiment with a second set to ensure consistency of the results.

9. How do I find out which resolving agents are giving me the best results? Do I need to call you after the experiment to find out the contents?

When you purchase the kit, you will get a results chart containing the full list of resolving agents and solvents. You should use this chart to note down crystallization yield and optical rotation and identify the resolving agent –solvent combination that provides the best result.

10. How long does it take to do the screening?

Typically, it takes 6 to 8 hours to perform the screening. Depending on the solubility of the diastereomeric salt and workup, and need for crystal initiation, it may take up to 24 hours.

11. Can I reuse the kits? Do you have any refill packs?

No, these are disposable kits. After you have completed the whole experiment using the kit and identified the vials that gave positive results, you can dispose of the rest of the kit.

12. Can you give me examples of the use of the kits? Can you provide me with literature that describes applications of the kits?

Yes, you can find this information at www.chirosolve.com/applications.

13. How do I add the racemate?

ChiroSolv™ Kits contain pierceable rubber septa. You simply inject the racemate through the septum of each vial. If your racemate is a solid, you can dissolve it in a solvent and then inject it. Alternatively, you can order kits with a seal (a spare septum mat). You can remove the seal; add the racemate in solid form and then cover with the septa (provided) to finish the work.

14. Why should I use ChiroSolv™ Kits? What are the advantages?

The biggest advantages that ChiroSolv™ Kits offer are ease-of-use, and time and money savings. They do not change your work process; but simply offer pre-calibrated amounts of resolving agents and solvents that are most likely to give best results, allowing you to quickly identify the optimal resolution process for your racemate. For more information, please check the supplier's website at www.chirosolve.com.

15. Has any company already used the kits in their research? What types of companies buy the kits?

Yes, most of the ChiroSolv™ customers are repeat customers. Companies that have purchased the kits in the past include big pharma and biochem companies. Some agrochemical manufacturers and companies from the perfume industry have also used them. You can see the names of some of these companies at www.chirosolve.com/customers.html

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