

## Combine CHIRAL-AGP and CHIRAL-CBH for improved selectivity and resolution

The **CHIRAL-AGP** and the **CHIRAL-CBH** columns both give very high enantioselectivity for many compounds.

On **CHIRAL-AGP** enantiomers of an extremely broad range of compounds can be resolved:

- amines (primary, secondary, tertiary and quarternary ammonium compounds)
- acids (strong and weak)
- nonprotolytes (esters, sulphoxides, amides alcohols etc.)

On **CHIRAL-CBH** basic compounds of different types can be separated. This column is extremely useful for the separation of preferably primary, secondary and tertiary amines.

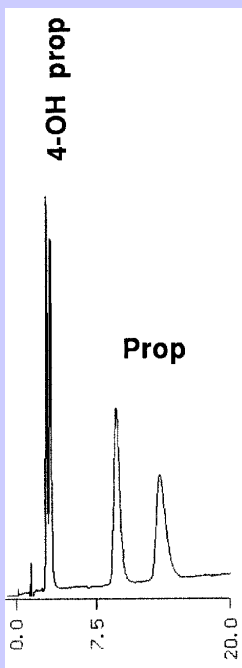
Even though the selectivity for enantiomers is very high it can sometimes be more difficult to separate other compounds which are related to each other in other ways, for example differing in an alkyl group or a hydroxyl group. This is the case, for example, when performing bioanalytical studies, where metabolites can interfere.

Below is an example of a drug (**propranolol**) and a metabolite (**4-OH-propranolol**). Both compounds exist in two enantiomers, giving 4 compounds to resolve.

When using **CHIRAL-AGP** alone propranolol is easily resolved without interference of the metabolite. However, the metabolite is not baseline resolved.

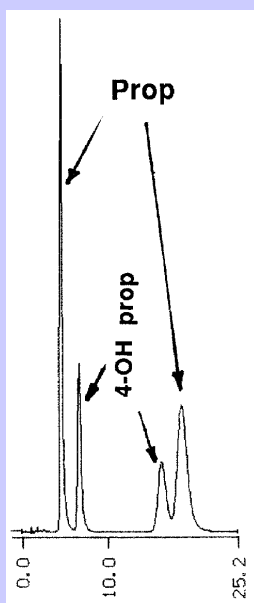
When using **CHIRAL-CBH** alone, the metabolite enantiomers are eluted between the propranolol enantiomers. The selectivity between the enantiomers of both compounds is very good, however there is some interference between the last eluted enantiomers of the two compounds.

When combining two short columns of both types, with the **CHIRAL-AGP** column in front, both enantiomers of both compounds are baseline resolved and there is no interference between any of the peaks.



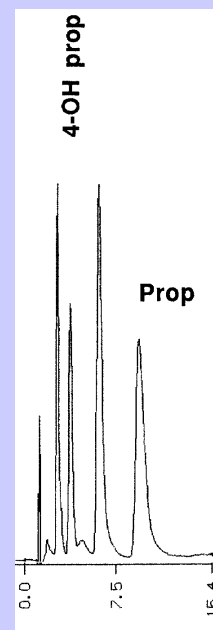
**CHIRAL-AGP** 100x4.0 mm

Mobile phase:  
0.5% 2-propanol in 20 mM ammonium acetate buffer  
pH 4.1



**CHIRAL-CBH** 100x4.0 mm

Mobile phase:  
5% 2-propanol in 10 mM sodium acetate buffer  
pH 5.0



**CHIRAL-AGP** 50x4.0 mm  
**CHIRAL-CBH** 50x4.0 mm

Mobile phase:  
0.5% 2-propanol in 20 mM ammonium acetate buffer  
pH 4.1