How to keep HPLC columns free of adsorbed contaminants – How To

Depending on the analytes you use the column with, there are a number of strategies you can try:

1. If your HPLC system can have more than two solvents, you could include a third line with a cleaning solvent. Then in the injection sequence you could insert a wash step which uses only the third solvent. The nature of the samples will dictate how frequently you need to do a washing. For serum samples, we recommend about every ten injections or fewer.
2. Using a guard column can be an effective technique because strongly adsorbed contaminants will build up at the front of the column. Therefore if you have a guard column attached, these compounds will build up here instead of on the analytical column. You can then replace these guard cartridges as needed.
3. You can also backflush the analytical column. If the column is facing the other direction, the contaminants will come off more easily.

The advantage of using Cogent TYPE-C™ columns over those based on ordinary Type B silica is that they can be more readily cleaned and restored to initial conditions. The reason is because of surface differences between the two materials where Cogent TYPE-C™ columns are more hydrophobic and has virtually no silanols therefor they do not have a water layer around the particles. Contaminants can therefore be more readily washed from the column. In contrast, contaminants may be more strongly adsorbed onto Type B columns due to the more active surface sites on this material and the relatively large amount of water surrounding the silica particles.

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