

Example questions T10M-M „Basics of Cloning and Proteomics“

Cloning

Describe a method to prevent re-ligation of a vector backbone without its insert.

Explain a method to produce blunt-ends from 5' overhangs.

Protein Purification

What is the basic principle of ammonium sulfate precipitation?

To purify protein with an isoelectric point of 9 at pH 7, which type of ion exchange material do you use?

Protein Modification

What are the requirements for complete amino-acid substitution (e.g. in E.coli)?

Name the two natural amino acids that do not have an exclusive codon assigned. Can you name the respective shared codon (bonus)? How is the process of incorporation called?

Protein Interaction

On which principle is the yeast-two-hybrid method based on (name or describe)?

Name a method that is suitable to confirm an interaction found in a Y2H screen. Describe the underlying principle.

Mass Spectrometry

Name three advantages of mass spectrometry and the respective inferior method.

Name the functional elements of a mass spectrometer and give two examples each.

Bio-conjugation

Define "bio-orthogonality". Name an exemplary reaction.

Name cysteine specific reactive groups. Which reaction pathways are employed?

Further questions will follow. Please come back later.