

# Preparation of well-defined protein-DNA conjugates

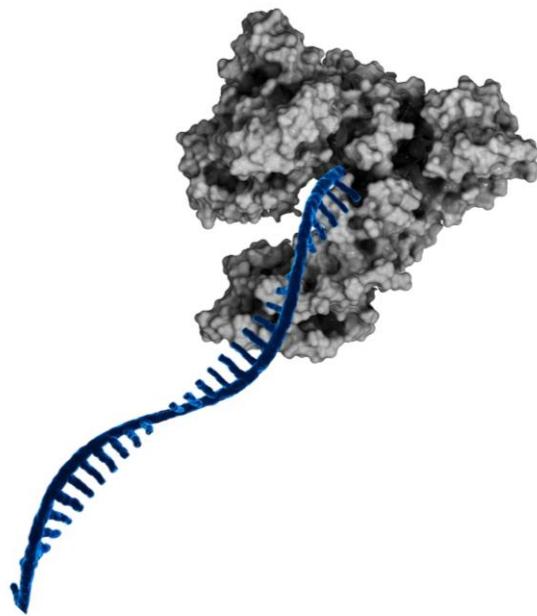
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Conjugates of proteins and DNA are becoming increasingly important for their use in DNA nanotechnology. We have developed a generic solution for the preparation, purification, and analysis of well-defined conjugates of proteins and oligodeoxynucleotides in a simple two-step workflow.

First, oligodeoxynucleotides are linked to proteins via amine-reactive or thiol-reactive chemistries, provided as ready-to-use coupling kits. In a second step, the reaction products are analysed, purified, and automatically collected by the proFIRE ion-exchange chromatography system. The reaction conditions are optimized for high yield while maintaining a 1:1 protein:DNA stoichiometry. Further, the purification step ensures that only mono-conjugates are being selected for subsequent experiments.

Key quality parameters such as purity (%), amount (pmol), and concentration (nM) of the selected fractions are quantified automatically by the instrument, which renders the utilization of the protein-DNA conjugates in following experiments straightforward.



**Figure 1:** A 1:1 protein-DNA conjugate.