

FAQ: Visualising small fragments in an agarose gel

The RedSafe™ Nucleic Acid Staining Solution is a fluorescent dye staining by the principle of inter-chelating binding of DNA and by electrostatic binding of RNA.

Staining intensity of single stranded or small sized nucleic acids will therefore be reduced compared with larger molecules. For example, the amount of fluorescent dye binding to 400 bp DNA or RNA molecule is greater than the amount of dye binding to 10 bp molecule.

Even with the same concentration of nucleic acids, there inevitably is a difference in the intensity of fluorescence.

In order to effectively detect a small molecule (for example of 10 bp), it is necessary to prepare a higher concentration of agarose gel as well as considering loading a higher concentration of nucleic acid product.