**Supplementary Material**

For DNA purification 8 different protocols were tested, including two commercial kits specialized for formalin fixed tissue. Protocols (1-8) are described in detail below. Tissue was fragmented thoroughly in each tube to alleviate digestion efficiency.

*Protocol 1*

The purpose of this method was to test the efficiency of prolonged proteinase K digestion. The standard protocol of a purification kit (NucleoSpin® Tissue, Macherey-Nagel, Cat. #740952.10) was followed, with the minor change of prolonging the proteinase K digestion from 1h at 56° C to 72h at 56° C.

*Protocol 2*

A specialized kit for Formalin Fixed and Paraffin Embedded (FFPE) tissue samples (QIAmp DNA FFPE Tissue, Qiagen, Cat. #56404) was tested. The manufacturers protocol was followed, except that the deparaffinization step was skipped and the proteinase K digestion was prolonged from 1h to 2.5h at 56° C.

*Protocol 3*

A specialized kit for FFPE tissue samples (GeneRead DNA FFPE Kit, Qiagen, Cat. #180134) was tested following the manufacturers protocol with prolonged proteinase K digestion (1h to 2.5h at 56° C).

*Protocol 4*

This protocol is based on the tests of Sato et al. (2001). Tissue was placed in 300 µl of Solution 1 (0.1x SSC Buffer, 1% Sodium Dodecyl Sulphate (SDS)). A small whole was poked into the lid of the micro-tubes to prevent the tubes to pop open. Samples were placed in a microwave oven at 900W for 10s. This step was repeated. Samples were left to cool down, 10µl proteinase K was added and placed at 56° C for 24 hours to incubate. Further purification steps were conducted via the NucleoSpin® Tissue kit following the manufacturer’s protocol.

*Protocol 5*

This protocol is identical to protocol 4, except the incubation time during the proteinase K digestion was prolonged to 48 hours. After 24 hours an additional 25 µl of proteinase K was added.

*Protocol 6*

This protocol is based on the results of Shi et al. (2002) and Shi et al. (2004). Tissue was placed in 500 µl of 2x Phosphate Buffered Saline (PBS) at pH 9, heated to 100° C for 10 min and left for cooling for 5 min. PBS was removed, replaced by 500 µl of PBS at pH 7.2 and again heated to 100° C for 10 min. PBS was removed and further purification steps were conducted via the NucleoSpin® Tissue kit.

*Protocol 7*

This protocol is identical to protocol F, except the incubation time during the proteinase K digestion was prolonged to 48 hours. After 24 hours an additional 25 µl of proteinase K was added.

*Protocol 8*

This protocol is based on the results of Joshi et al. (2013). Tissue samples were placed in 1000 µl of PBS at pH 7 and left for incubation for 72 hours at 57° C. PBS was removed and further purification steps were conducted via the NucleoSpin® Tissue kit.