SUPPORTING INFORMATION

Molecular Effects and Tissue Penetration Depth of Physical Plasma in Human Mucosa Analyzed by Contact- and Marker-Independent Raman Microspectroscopy

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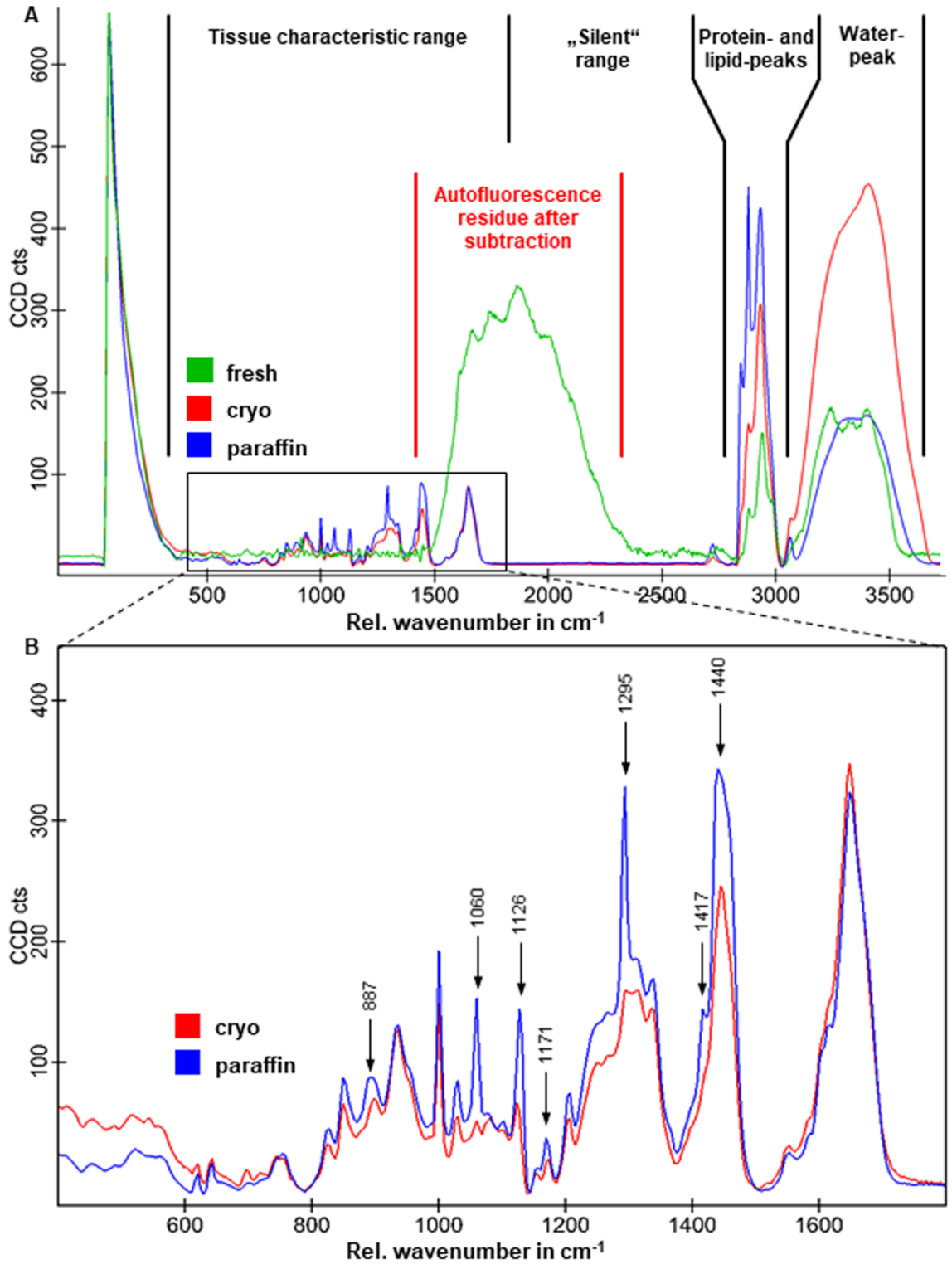
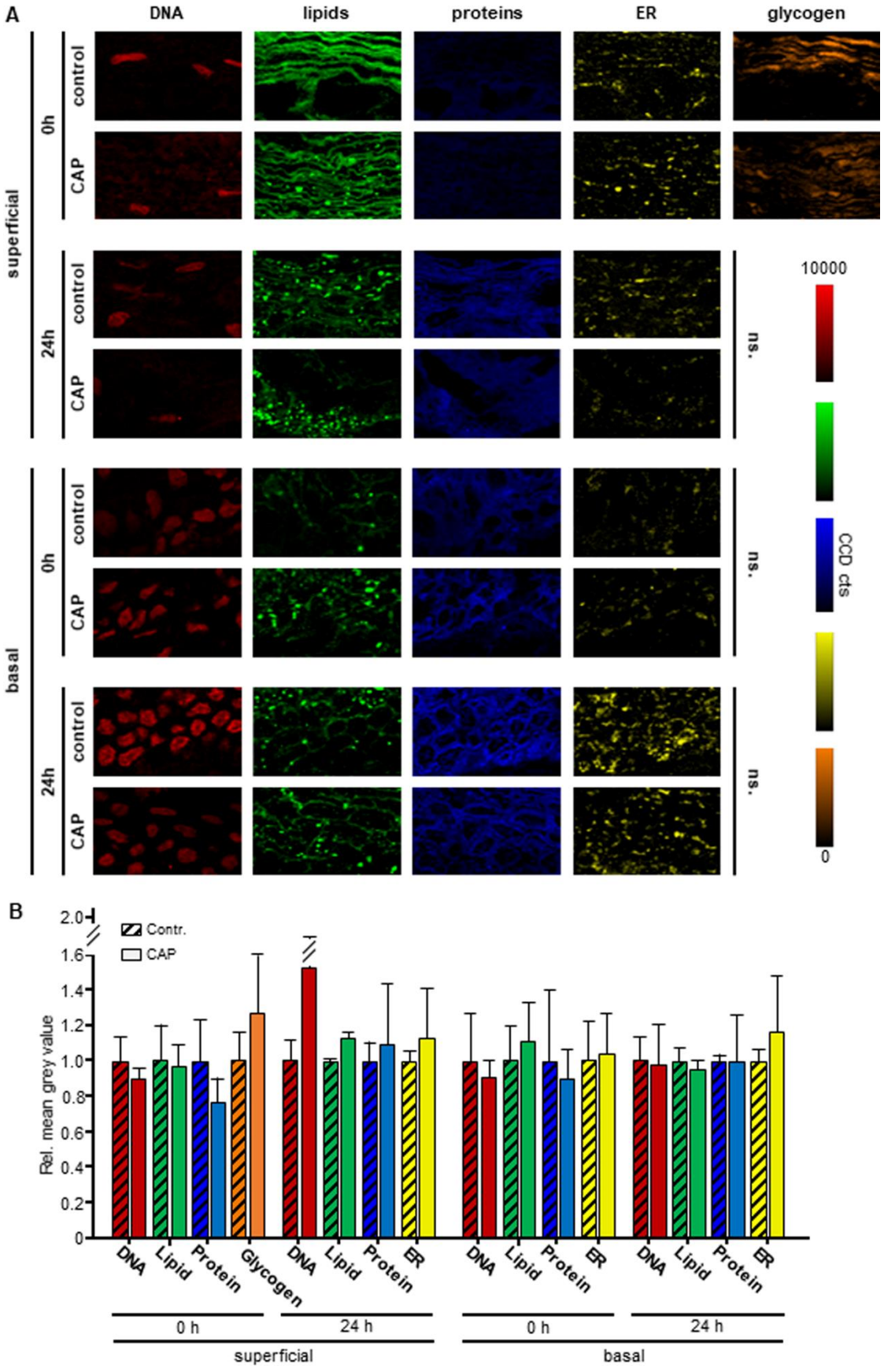

A
Tissue characteristic range
„Silent“ range
Protein- and lipid-peaks
Water-peak
Autofluorescence residue after subtraction
fresh
cryo
paraffin
CCD cts
Rel. wavenumber in cm-1
B
cryo
paraffin
887
1060
1126
1171
1295
1417
1440
CCD cts
Rel. wavenumber in cm-1

Supplemental Figure S1: Raman microspectroscopy of cervical epithelial tissue using different tissue preservation methods. *Average Raman Spectra of fresh (green), cryopreserved (red) and paraffin-embedded (blue) cervical epithelial tissue samples (A). The characteristic peaks of epithelial tissues are superimposed by autofluorescence in fresh tissue. Wavenumber range between 400-1800 rel. cm^{-1} for cryopreserved (red) and paraffin-embedded (blue) cervical epithelial tissue samples (B). Characteristic paraffin peaks, according to literature, are marked with arrows.*[31,38]


A
DNA
lipids
proteins
ER
glycogen
superficial
basal
0h
24h
control
CAP
ns.
10000
CCD cts
0
B
Contr.
CAP
Rel. mean grey value
2.0
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0
DNA
Lipid
Protein
Glycogen
ER
0 h
24 h
superficial
basal

Supplemental Figure S2: CAP effects on molecular tissue components of cervical epithelium by Raman imaging. *A: Representative TCA images after superficial CAP treatment of cervical tissue, and following cryopreservation and sectioning after indicated time points. Sections of CAP-treated and argon-control samples were analyzed by Raman microspectroscopy and TCA including DNA (red), lipids (green), proteins (blue), endoplasmic reticulum (ER, yellow), glycogen (orange). Scale bar equals 20 µm. B: Relative mean grey values after TCA of CAP and argon-control treated tissues. p>0,05 for all comparisons as determined by Wilcoxon matched pair signed-rank test at n = 5 patient samples.*