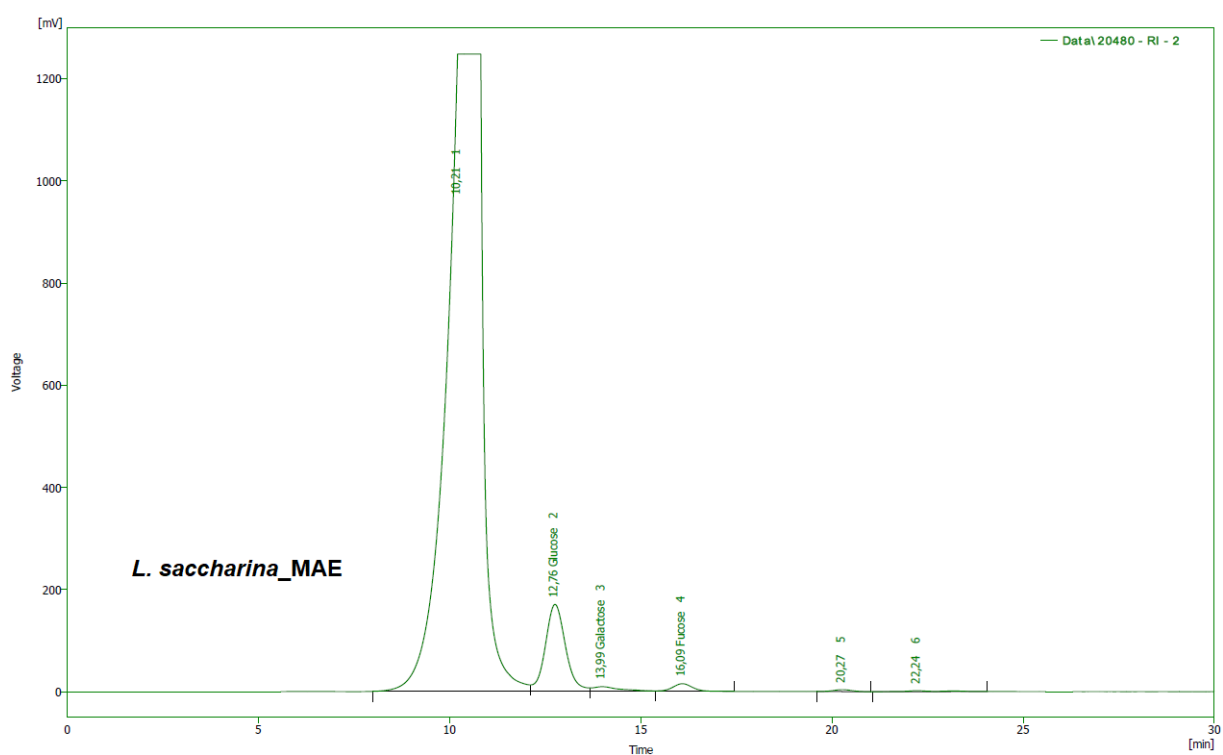
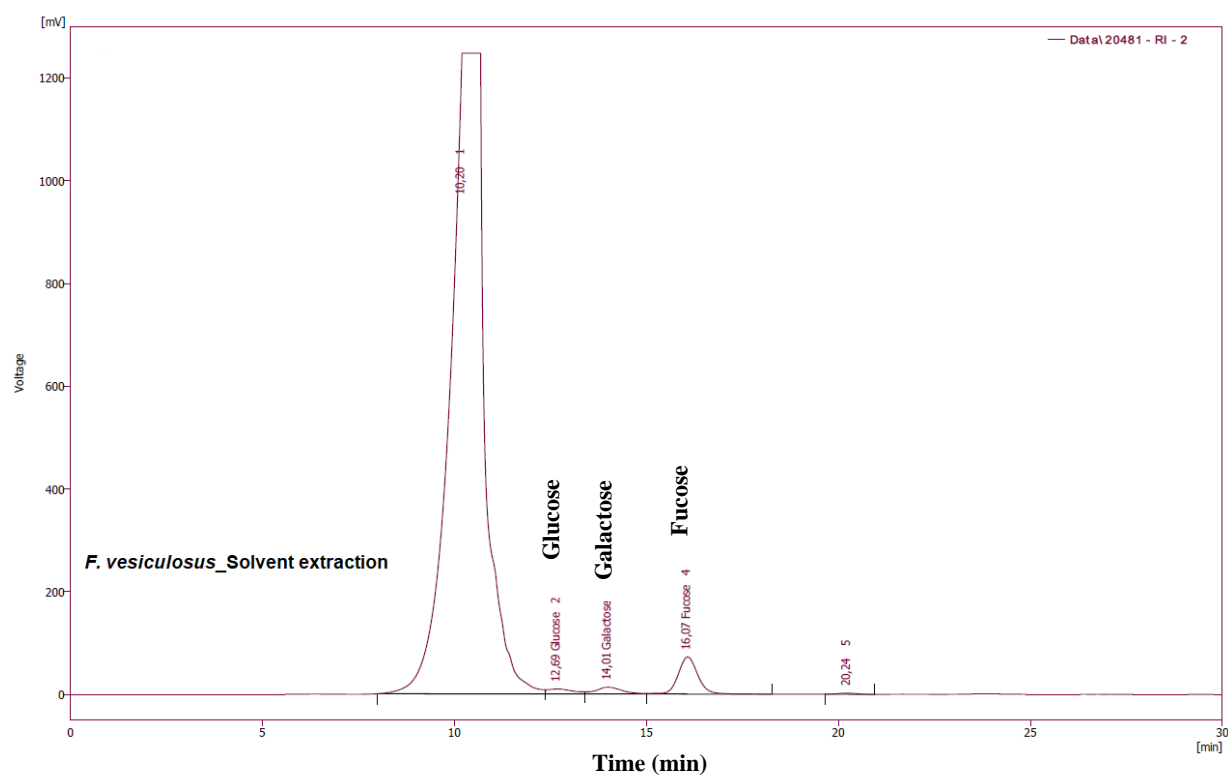


Characterization and cytotoxic activity of microwave-assisted extracted crude fucoidans from different brown seaweeds

Supplementary Figures



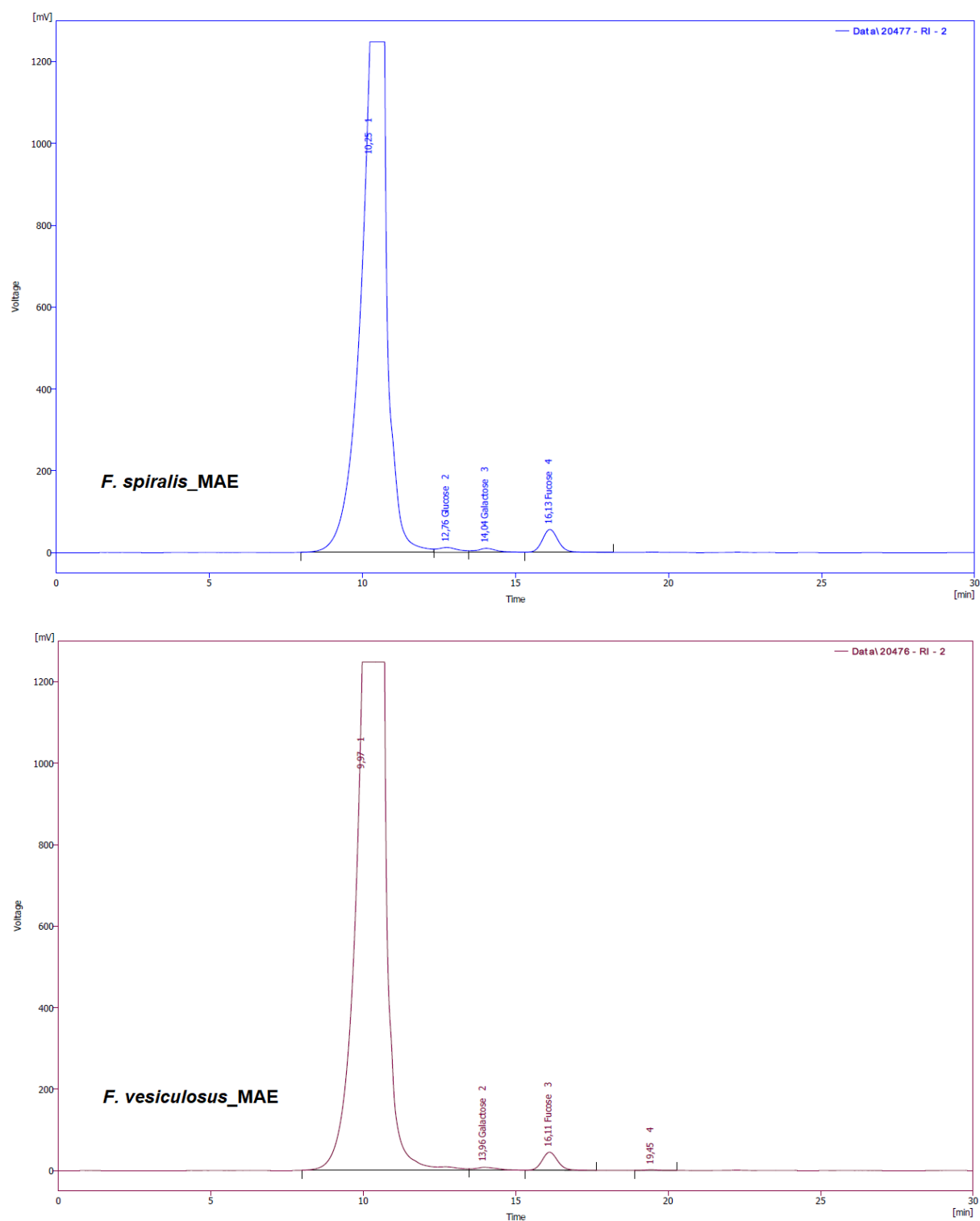


Figure S1: Monomeric composition chromatograms of the four investigated brown algae crude fucoidan extracts revealing the ratio between major sugar monomers, *i.e.*, glucose, galactose, and fucose.

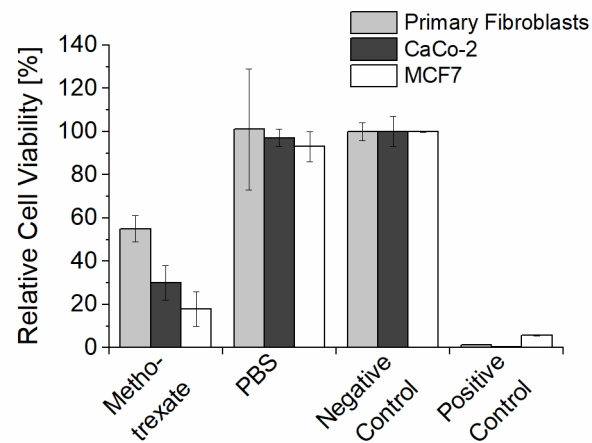


Figure S2: Relative cell viability of primary fibroblast (light grey bars), Caco-2 (dark grey bars) and MCF7 (white bars) cells after incubation with control substances: 300 μ M methotrexate, PBS, cell-specific media (negative control) and SDS (positive control). The relative cell viability was calculated relative to the untreated negative control.

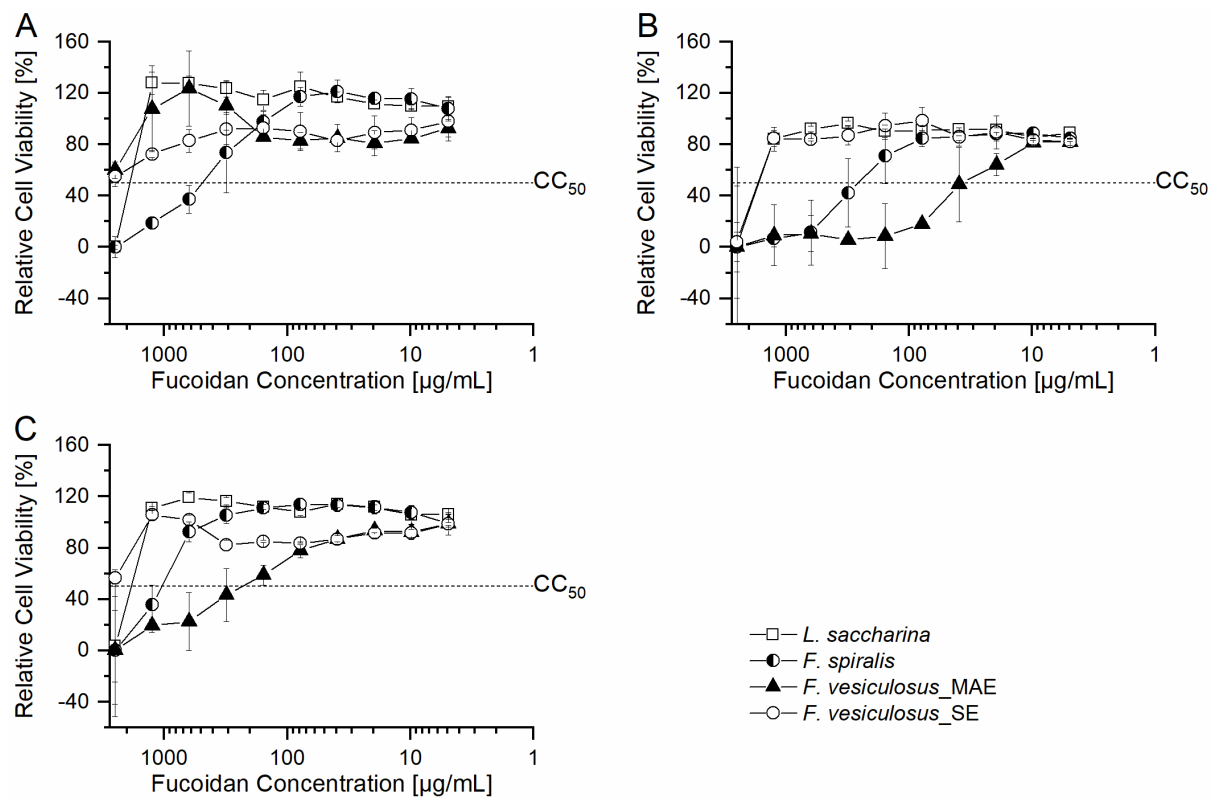


Figure S3: Dose-response curves of primary fibroblasts (A), MCF7 cell line (B) and Caco-2 cell line (C) treated with four different fucoidan fractions in concentrations ranging from 4.9 µg/mL to 2500 µg/mL. The relative cell viability was calculated relative to the untreated negative control.

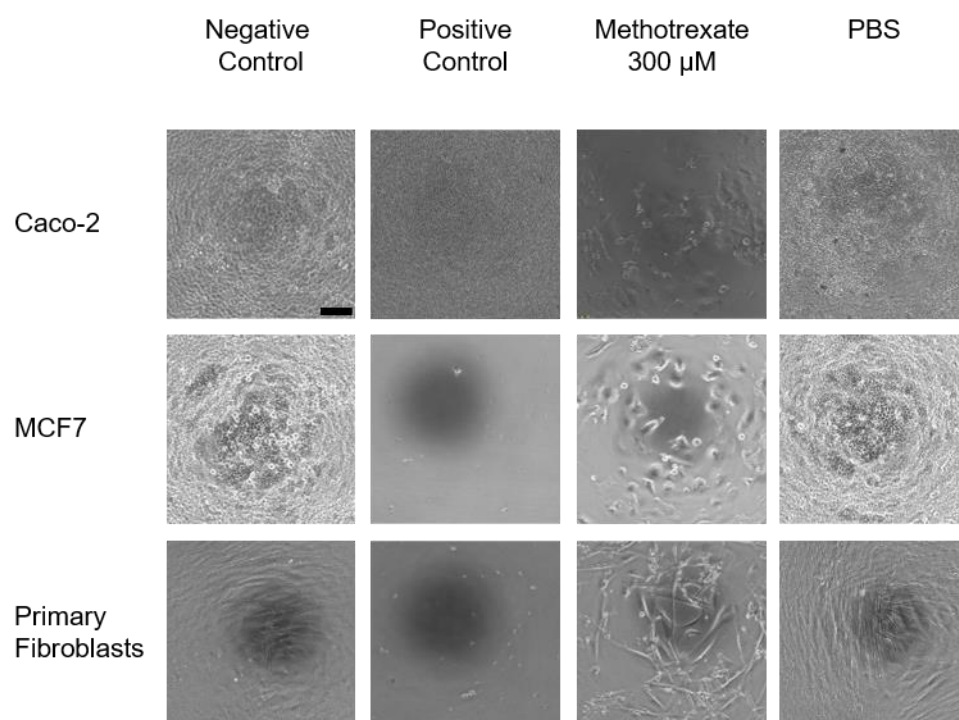


Figure S4: Phase contrast images of different cell types (Caco-2 (upper row), MCF7 (middle row), primary fibroblasts (lower row) after incubation with cell specific media (negative control), SDS (positive control), 300 μ M methotrexate and PBS. The scale bar of the image in the left corner represents 100 μ m and is representative for all images.

Supplementary Tables

Table S1. Entitled differences of the calculated half-maximal cytotoxic concentration (CC₅₀). The CC₅₀ values within one cell type were compared. Significances are tagged as follows: * = $p < 0.05$, n.s. = not significant ($p > 0.05$), n.d. = not determined (at least one CC₅₀ amounted $> 2500 \mu\text{g/mL}$).

| CaCo-2 | | | | |
|----------------------------|---------------------------|----------------------------|--------------------|----------------------|
| | <i>F. vesiculosus</i> _SE | <i>F. vesiculosus</i> _MAE | <i>F. spiralis</i> | <i>L. saccharina</i> |
| <i>F. vesiculosus</i> _SE | - | n.d. | n.d. | n.d. |
| <i>F. vesiculosus</i> _MAE | n.d. | - | * | * |
| <i>F. spiralis</i> | n.d. | * | - | * |
| <i>L. saccharina</i> | n.d. | * | * | - |
| Primary Fibroblasts | | | | |
| | <i>F. vesiculosus</i> _SE | <i>F. vesiculosus</i> _MAE | <i>F. spiralis</i> | <i>L. saccharina</i> |
| <i>F. vesiculosus</i> _SE | - | n.d. | n.d. | n.d. |
| <i>F. vesiculosus</i> _MAE | n.d. | - | n.d. | n.d. |
| <i>F. spiralis</i> | n.d. | n.d. | - | * |
| <i>L. saccharina</i> | n.d. | n.d. | * | - |
| MCF7 | | | | |
| | <i>F. vesiculosus</i> _SE | <i>F. vesiculosus</i> _MAE | <i>F. spiralis</i> | <i>L. saccharina</i> |
| <i>F. vesiculosus</i> _SE | - | * | * | n.s. |
| <i>F. vesiculosus</i> _MAE | * | - | * | * |
| <i>F. spiralis</i> | * | * | - | * |
| <i>L. saccharina</i> | n.s. | * | * | - |

Table S2. Entitled differences of the calculated half-maximal cytotoxic concentration (CC₅₀). The CC₅₀ values within one fucoidan fraction were compared. For the fucoidan *F. vesiculosus*_SE no statistical evaluation was possible, since CC₅₀ values were determined only for MCF7. Significances are tagged as follows: * = $p < 0.05$, n.s. = not significant ($p > 0.05$), n.d. = not determined (at least one CC₅₀ amounted >2500 µg/mL).

| <i>F. vesiculosus</i> _MAE | | | |
|----------------------------|---------------------|------|--------|
| | Primary Fibroblasts | MCF7 | Caco-2 |
| Primary Fibroblasts | - | n.d. | n.d. |
| MCF7 | n.d. | - | n.s. |
| Caco-2 | n.d. | n.s. | - |

| <i>F. spiralis</i> | | | |
|---------------------|---------------------|------|--------|
| | Primary Fibroblasts | MCF7 | Caco-2 |
| Primary Fibroblasts | - | * | * |
| MCF7 | * | - | * |
| Caco-2 | * | * | - |

| <i>L. saccharina</i> | | | |
|----------------------|---------------------|------|--------|
| | Primary Fibroblasts | MCF7 | Caco-2 |
| Primary Fibroblasts | - | * | n.s. |
| MCF7 | * | - | * |
| Caco-2 | n.s. | * | - |