## Aus dem Institut für Molekularbiologie und Biochemie

des Fachbereiches Humanmedizin der Freien Universität Berlin (Abteilung Biochemie Leiter: Prof. Dr. Med. W. Reutter)

## Immunostimulation and Induction of Apoptosis of Tumour Cells by Effective Compounds from *Ganoderma lucidum* and *Polygonum cuspidatum*

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# Appendix

### Abbreviations

BMMsBone marrow-derived macrophagesCDCluster of differentiationDEAEDiethylaminoethylDMSODimethylsulfoxideELISAEnzyme-linked immunosorbent assayFACSFluorescence-activated cell sortingFCSFetal calf serumFTTCFluorescein isothiocyanateFucFucoseGALGalactoseGAPDHGlyceraldehyde-3-phosphate dehydrogenaseGalNAcN-AcetylgalactosamineGlucoseGlucoseHPLCHigh performance liquid chromatographyHSHCrude extract from Grifola frondosaHTCrude extract from Polygonum cuspidatumIC5050% of inhibition concentrationIL-1βInterleukin-1βkDaKilodaltonLC5050% of lethal concentrationIgGImmunoglubulin GIgMImmunoglubulin MLPSLipopolysaccharide from Escherichia coli 0111:B4LZCrude extracts from Ganoderma lucidum	Ara	Arabinose
DEAEDiethylaminoethylDMSODimethylsulfoxideELISAEnzyme-linked immunosorbent assayFACSFluorescence-activated cell sortingFACSFetal calf serumFTCFluorescein isothiocyanateFucFucoseGALGalactoseGAPDHGlyceraldehyde-3-phosphate dehydrogenaseGalxAcN-AcetylgalactosamineGluNAcN-AcetylglucosamineGluGlucoseHTLHigh performance liquid chromatographyHSHCrude extract from <i>Grifola frondosa</i> HTSo% of inhibition concentrationIL-1βInterleukin-1βKDaSilodatonIgGSo% of lethal concentrationIgGImmunoglubulin MLCS0Liopoplysaccharide from Escherichia coli 0111:B4LZCrude extract from <i>Ganoderma lucidum</i>	BMMs	Bone marrow-derived macrophages
DMSODimethylsulfoxideELISAEnzyme-linked immunosorbent assayFACSFluorescence-activated cell sortingFACSFetal calf serumFTCFluorescein isothiocyanateFucFucoseGALGalactoseGAPDHGlyceraldehyde-3-phosphate dehydrogenaseGaINAcN-AcetylgalactosamineGluGlucoseHPLCHigh performance liquid chromatographyHSHCrude extract from <i>Grifola frondosa</i> HTCrude extract from <i>Polygonum cuspidatum</i> IC5050% of inhibition concentrationIL-1βInterleukin-1βkDaKilodaltonLC5050% of lethal concentrationIgfImmunoglubulin MLPSLipopolysaccharide from Escherichia coli 0111:B4LZCrude extract from <i>Ganoderma lucidum</i>	CD	Cluster of differentiation
ELISAEnzyme-linked immunosorbent assayFACSFluorescence-activated cell sortingFACSFetal calf serumFTCFluorescein isothiocyanateFucFucoseGALGalactoseGAPDHGlyceraldehyde-3-phosphate dehydrogenaseG-3-PGlyceraldehyde-3-phosphateGloNAcN-AcetylgalactosamineGluGlucoseHPLCHigh performance liquid chromatographyHSHCrude extract from <i>Grifola frondosa</i> HZCrude extract from <i>Polygonum cuspidatum</i> IC5050% of inhibition concentrationIL-1βInterleukin-1βkDaKilodaltonLS5050% of lethal concentrationIgGImmunoglubulin MLPSLipopolysaccharide from Escherichia coli 0111:B4LZCrude extract from <i>Ganoderma lucidum</i>	DEAE	Diethylaminoethyl
FACSFluorescence-activated cell sortingFCSFetal calf serumFCSFetal calf serumFTCFluorescein isothiocyanateFucFucoseGALGalactoseGAPDHGlyceraldehyde-3-phosphate dehydrogenaseG-3-PGlyceraldehyde-3-phosphateGlaNAcN-AcetylgalactosamineGlcNAcN-AcetylglucosamineGluGlucoseHPLCHigh performance liquid chromatographyHSHCrude extract from <i>Grifola frondosa</i> HZCrude extract from <i>Polygonum cuspidatum</i> IC5050% of inhibition concentrationL-1βInterleukin-1βKDaSiloaltonLGS50% of lethal concentrationIgGImmunoglubulin GIgMLipopolysaccharide from Escherichia coli 0111:B4LPSLipopolysaccharide from <i>Ganoderma lucidum</i>	DMSO	Dimethylsulfoxide
FCSFetal calf serumFTCFluorescein isothiocyanateFucFucoseGALGalactoseGAPDHGlyceraldehyde-3-phosphate dehydrogenaseG-3-PGlyceraldehyde-3-phosphateGalNAcN-AcetylgalactosamineGluSlucoseGluGlucoseHPLCHigh performance liquid chromatographyHSHCrude extract from <i>Grifola frondosa</i> HZCrude extract from <i>Polygonum cuspidatum</i> IC5050% of inhibition concentrationIL-1βInterleukin-1βKDaSilodaltonIgGImmunoglubulin GIgMLipopolysaccharide from Escherichia coli 0111:B4LPSCrude extract from <i>Ganoderma lucidum</i>	ELISA	Enzyme-linked immunosorbent assay
FITCFluorescein isothiocyanateFucFucoseGALGalactoseGAPDHGlyceraldehyde-3-phosphate dehydrogenaseG-3-PGlyceraldehyde-3-phosphateGalNAcN-AcetylgalactosamineGlcNAcN-AcetylglucosamineGluGlucoseHPLCHigh performance liquid chromatographyHSHCrude extract from <i>Grifola frondosa</i> HTCrude extract from <i>Hericium erinaceum</i> HZS0% of inhibition concentrationIL-1βInterleukin-1βkDaS0% of lethal concentrationIgGImmunoglubulin GIgMImmunoglubulin MLPSLipopolysaccharide from <i>Ganoderma lucidum</i>	FACS	Fluorescence-activated cell sorting
FucFucoseGALGalactoseGAPDHGlyceraldehyde-3-phosphate dehydrogenaseG-3-PGlyceraldehyde-3-phosphateGalNAcN-AcetylgalactosamineGlcNAcN-AcetylglucosamineGluGlucoseHPLCHigh performance liquid chromatographyHSHCrude extract from Grifola frondosaHTCrude extract from Hericium erinaceumICS050% of inhibition concentrationIL-1βInterleukin-1βkDaSilodaltonLC5050% of lethal concentrationIgGImmunoglubulin GIgMLipopolysaccharide from Escherichia coli 0111:B4LPSLipopolysaccharide from Ganoderma lucidum	FCS	Fetal calf serum
GALGalactoseGAPDHGlyceraldehyde-3-phosphate dehydrogenaseG-3-PGlyceraldehyde-3-phosphateGalNAcN-AcetylgalactosamineGlcNAcN-AcetylglucosamineGluGlucoseHPLCHigh performance liquid chromatographyHSHCrude extract from Grifola frondosaHTCrude extract from Hericium erinaceumHZS0% of inhibition concentrationIL-1βInterleukin-1βKDaS0% of lethal concentrationILC50S0% of lethal concentrationIgGImmunoglubulin GIgMLipopolysaccharide from Escherichia coli 0111:B4LPSLipopolysaccharide from Ganoderma lucidum	FITC	Fluorescein isothiocyanate
GAPDHGlyceraldehyde-3-phosphate dehydrogenaseG-3-PGlyceraldehyde-3-phosphateGalNAcN-AcetylgalactosamineGlcNAcN-AcetylglucosamineGluGlucoseHPLCHigh performance liquid chromatographyHSHCrude extract from <i>Grifola frondosa</i> HTCrude extract from <i>Hericium erinaceum</i> HZCrude extract from <i>Polygonum cuspidatum</i> IC5050% of inhibition concentrationIL-1βInterleukin-1βkDaKilodaltonLC5050% of lethal concentrationIgGImmunoglubulin GIgMLipopolysaccharide from Escherichia coli 0111:B4LZCrude extracts from <i>Ganoderma lucidum</i>	Fuc	Fucose
G-3-PGlyceraldehyde-3-phosphateGalNAcN-AcetylgalactosamineGlcNAcN-AcetylglucosamineGluGlucoseHPLCHigh performance liquid chromatographyHSHCrude extract from Grifola frondosaHTCrude extract from Hericium erinaceumHZCrude extract from Polygonum cuspidatumIC5050% of inhibition concentrationIL-1βInterleukin-1βkDaKilodaltonLC5050% of lethal concentrationIgGImmunoglubulin GIgMImmunoglubulin MLPSLipopolysaccharide from Ganoderma lucidum	GAL	Galactose
GalNAcN-AcetylgalactosamineGlcNAcN-AcetylglucosamineGluGlucoseHPLCHigh performance liquid chromatographyHSHCrude extract from Grifola frondosaHTCrude extract from Hericium erinaceumHZCrude extract from Polygonum cuspidatumIC5050% of inhibition concentrationIL-1βInterleukin-1βkDaKilodaltonLC5050% of lethal concentrationIgGImmunoglubulin GIgMImmunoglubulin MLPSLipopolysaccharide from Escherichia coli 0111:B4LZCrude extracts from Ganoderma lucidum	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
GlcNAcN-AcetylglucosamineGluGlucoseHPLCHigh performance liquid chromatographyHSHCrude extract from Grifola frondosaHTCrude extract from Hericium erinaceumHZCrude extract from Polygonum cuspidatumIC5050% of inhibition concentrationIL-1βInterleukin-1βkDaKilodaltonLC5050% of lethal concentrationIgGImmunoglubulin GIgMLipopolysaccharide from Escherichia coli 0111:B4LZCrude extracts from Ganoderma lucidum	G-3-P	Glyceraldehyde-3-phosphate
GluGlucoseHPLCHigh performance liquid chromatographyHSHCrude extract from Grifola frondosaHTCrude extract from Hericium erinaceumHZCrude extract from Polygonum cuspidatumIC5050% of inhibition concentrationIL-1βInterleukin-1βkDaKilodaltonLC5050% of lethal concentrationIgGImmunoglubulin GIgMLipopolysaccharide from Escherichia coli 0111:B4LZCrude extracts from Ganoderma lucidum	GalNAc	N-Acetylgalactosamine
HPLCHigh performance liquid chromatographyHSHCrude extract from Grifola frondosaHTCrude extract from Hericium erinaceumHZCrude extract from Polygonum cuspidatumIC5050% of inhibition concentrationIL-1βInterleukin-1βkDaKilodaltonLC5050% of lethal concentrationIgGImmunoglubulin GIgMLipopolysaccharide from Escherichia coli 0111:B4LZCrude extracts from Ganoderma lucidum	GlcNAc	N-Acetylglucosamine
HSHCrude extract from Grifola frondosaHTCrude extract from Hericium erinaceumHZCrude extract from Polygonum cuspidatumIC5050% of inhibition concentrationIL-1βInterleukin-1βkDaKilodaltonLC5050% of lethal concentrationIgGImmunoglubulin GIgMImmunoglubulin MLPSLipopolysaccharide from Escherichia coli 0111:B4LZCrude extracts from Ganoderma lucidum	Glu	Glucose
HTCrude extract from Hericium erinaceumHZCrude extract from Polygonum cuspidatumIC5050% of inhibition concentrationIL-1βInterleukin-1βkDaKilodaltonLC5050% of lethal concentrationIgGImmunoglubulin GIgMImmunoglubulin MLPSLipopolysaccharide from Escherichia coli 0111:B4LZCrude extracts from Ganoderma lucidum	HPLC	High performance liquid chromatography
HZCrude extract from Polygonum cuspidatumIC5050% of inhibition concentrationIL-1βInterleukin-1βkDaKilodaltonLC5050% of lethal concentrationIgGImmunoglubulin GIgMImmunoglubulin MLPSLipopolysaccharide from Escherichia coli 0111:B4LZCrude extracts from Ganoderma lucidum	HSH	Crude extract from Grifola frondosa
IC5050% of inhibition concentrationIL-1βInterleukin-1βkDaKilodaltonLC5050% of lethal concentrationIgGImmunoglubulin GIgMImmunoglubulin MLPSLipopolysaccharide from Escherichia coli 0111:B4LZCrude extracts from Ganoderma lucidum	HT	Crude extract from Hericium erinaceum
IL-1βInterleukin-1βkDaKilodaltonLC5050% of lethal concentrationIgGImmunoglubulin GIgMImmunoglubulin MLPSLipopolysaccharide from Escherichia coli 0111:B4LZCrude extracts from Ganoderma lucidum	HZ	Crude extract from Polygonum cuspidatum
kDaKilodaltonLC5050% of lethal concentrationIgGImmunoglubulin GIgMImmunoglubulin MLPSLipopolysaccharide from Escherichia coli 0111:B4LZCrude extracts from Ganoderma lucidum	IC50	50% of inhibition concentration
LC5050% of lethal concentrationIgGImmunoglubulin GIgMImmunoglubulin MLPSLipopolysaccharide from Escherichia coli 0111:B4LZCrude extracts from Ganoderma lucidum	IL-1β	Interleukin-1 $\beta$
IgGImmunoglubulin GIgMImmunoglubulin MLPSLipopolysaccharide from Escherichia coli 0111:B4LZCrude extracts from Ganoderma lucidum	kDa	Kilodalton
IgMImmunoglubulin MLPSLipopolysaccharide from Escherichia coli 0111:B4LZCrude extracts from Ganoderma lucidum	LC50	50% of lethal concentration
LPSLipopolysaccharide from Escherichia coli 0111:B4LZCrude extracts from Ganoderma lucidum	IgG	Immunoglubulin G
LZ Crude extracts from <i>Ganoderma lucidum</i>	IgM	Immunoglubulin M
	LPS	Lipopolysaccharide from Escherichia coli 0111:B4
LZSBS Crude extracts from spore of <i>Ganoderma lucidum</i>	LZ	Crude extracts from Ganoderma lucidum
	LZSBS	Crude extracts from spore of Ganoderma lucidum
MACS Magnetic cell sorting	MACS	Magnetic cell sorting
MALDI- Matrix-assisted laser desorption / ionization time-of-flight mass	MALDI-	Matrix-assisted laser desorption / ionization time-of-flight mass
TOF-MS spectrimetry	TOF-MS	spectrimetry
Man Mannose	Man	Mannose
Mr. Relative molecular weight	Mr.	Relative molecular weight

MSB	Mouse spleen B cell
MSL	Mouse spleen lymphocyte
NAD	Nicotinamide adenine dinucleotide
PBS	Phosphate buffer
PE	R-phycoerythrin
PHA	Phytohemagglutinin
PI	Propidium iodine
PMSF	Phenylmethylsulfonylfluoride
RNI	Reactive nitrogen intermediate
RNase A	Ribonuclease A
SDS	Sodium dodecylsulfate
TFA	Trifluroacetic acid
TLC	Thin layer chromatography
TBMMs	Bone marrow-derived macrophages from tumour-bearing mice
TMSB	B lymphocytess from spleen of tumour-bearing mice
TMSL	Lymphocytes from spleen of tumour-bearing mice
TNF-α	Tumour necrosis factor-α
Tris	Tris-hydroxylmethyl-aminomethane
YZ	Crude extract from Coriolus versicolor