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1 Purpose of the Document

Purpose

Production of products in a regulated environment requires detailed documentation of all components used. The purpose of the Regulatory Support File (RSF) is to provide comprehensive information about EndoTrap HD affinity matrix to help customers register their production processes.

Information described here may also be useful for quality control and setting up procedures for cleaning-in-place (CIP) and sanitization.

2 Quality policy

LIONEX GmbH	<p>It is of highest interest for all LIONEX employees to continuously improve the satisfaction of our customers and all business partners and permanently fulfil their needs and desires to establish successful enduring partnerships.</p> <p>This will be achieved by:</p> <ul style="list-style-type: none"> - Development and manufacturing of innovative products of outstanding quality - Provision of extensive customer support and service - Well-educated, highly dedicated employees - Maintenance and continuous improvement of our quality management system - Compliance with all relevant statutory requirements
Bead manufacturer	Tosoh Bioscience GmbH, the manufacturer of our beads, is certificated according to ISO 9001.
Selection of reagent supplier	LIONEX selects all its' reagent suppliers appropriate to defined quality aspects. One of our criteria is the supplier's certification according to standards that are required for our products or processes. The fulfilment of our demands is monitored regularly by early supplier assessments or audits.

2.1 Certifications

ISO standards	Since October 2009 LIONEX is certified according DIN EN ISO 13485:2016.
Regulatory requirements	There are no regulatory requirements (such as GMP) for the production of EndoTrap HD.

2.2 Certificate for Quality Assurance

LIONEX GmbH	DIN EN ISO 13485:2016. Scope: Development, manufacturing and distribution of biotechnological products for use in the sectors of life science, food analysis and human diagnostics.
Tosoh Corporation Tosoh Techno-System Inc. Tosoh Hi-Tec, Inc. Tosoh AIA, Inc.	ISO 9001:2015, JIS Q 14001:2015 Scope: Design, manufacturing, sales and services of in vitro diagnostic medical devices, genetic analysis devices, liquid chromatography systems and separation media.
Tosoh Bioscience, LLC	QSR®'s* Contract and ISO 9001:2015 Scope: Supplying bio-separation products to the pharmaceutical and biotechnology industries. Exclusions: 7.3 Design and development; 7.5.1 Control of production and service provision (service provision only); 7.5.2 Validation of processes for production and service provision; 7.5.4 Customer property.
Tosoh Bioscience GmbH	ISO 9001:2015 Field of application: development and distribution of HPLC-columns and separation media for purification and production of bio-products

* QSR: Quality System Regulation

† ISO: International Organization for Standardization

3 Product description

Content of Chapter 3	<p>Chapter 3 provides a general overview on the basic features of EndoTrap HD affinity matrix and endotoxin analysis</p> <ul style="list-style-type: none"> - What is EndoTrap HD - General product features - Endotoxin (definitions, characteristics, detection methods, unit definition)
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3.1 What is EndoTrap® HD

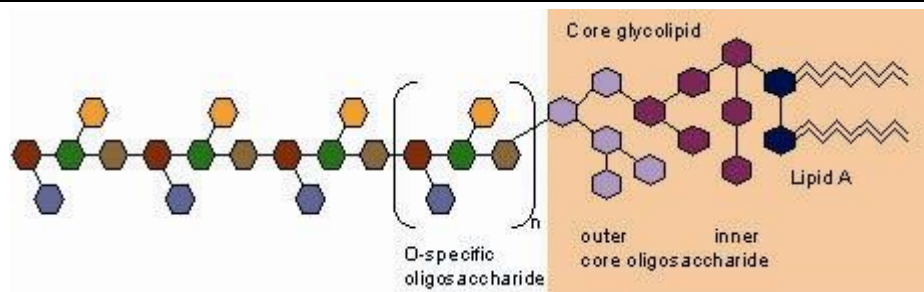
General description	<ul style="list-style-type: none"> - EndoTrap HD is an affinity matrix suited for removal of endotoxin. It consists of a phage-derived protein ligand covalently bound to an acrylate bead matrix. The ligand recognizes the conserved inner core of lipopolysaccharides (LPS). High affinity binding requires low concentration of calcium ions.
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3.2 General Product Features

Intended use of the product	Removal of bacterial lipopolysaccharides from biological solutions.
Principle of the product	Affinity chromatography
Origin of protein ligand	Bacteriophage tail protein
Ligand specificity	Inner core region of LPS of gram-negative bacteria.
Requirement for LPS binding	at least 0.1 mM free calcium ions, e.g. supplemented as CaCl ₂
Amount of immobilized protein	approx. 1 - 3 mg/ml

3.3 Endotoxin (definitions & characteristics)

Definition pyrogen	Any substance which would induce a temperature rise when introduced into an organism. There are a lot of substances that can cause fever in mammals; examples are bacterial DNA, LTA (from Gram-positive bacteria), porins or superantigens. ¹
Definition endotoxin	The term "endotoxin" is occasionally used to refer to any cell-associated bacterial toxin, in bacteriology it is properly reserved to refer to the lipopolysaccharide complex associated with the outer membrane of Gram-negative pathogens. ²
Definition LPS	Lipopolysaccharide; major component of the outer membrane of Gram-negative bacteria.
Structure of LPS	Large molecule consisting of a lipid and a polysaccharide (carbohydrate) joined by a covalent bond. The LPS consists of three general parts: <ul style="list-style-type: none"> - Variable region called o-specific chain - Relatively conserved core region - Conserved Lipid A



“Inner core region” of LPS	Consisting of heptoses and keto-3-deoxy-octonic acid (KDO) forming a rare sugar-motive which is highly conserved.
Physical characteristics of LPS ¹	<ul style="list-style-type: none"> - complex amphipathic molecules - net negative charge tendency - molecular weight: 10 – 20 kDa - isoelectric point (pI): ~ 2.0 - critical micelle concentration (CMC): ~ 4 μM

3.4 Endotoxin (detection methods & unit definition)

¹ Endotoxin Compendium, V 10.13, Hyglos GmbH

² <http://www.textbookofbacteriology.net/endotoxin.html>

Detection methods for LPS

- EndoLISA[®] endotoxin assay:
sensitivity: 0.05 – 500 EU/ml
- EndoZyme[®] endotoxin assay:
sensitivity: 0.005 – 500 EU/ml
- Recombinant Factor C assay:
sensitivity: 0.01 – 10 EU/ml
- Rabbit pyrogen test
(Ph.Eur. 2002, 2.6.8)
sensitivity: “13.81 EU/mL/kg as the concentration of endotoxin necessary to induce a temperature rise of 0.5°C”¹
- **Limulus amoebocyte lysate test²**
(Ph.Eur. 2002, 2.6.14)
Gel Clot LAL:
sensitivity: 0.03 – 0.25 EU/ml
Chromogenic End-Point LAL:
sensitivity: 0.1 – 1 EU/ml
Kinetic Turbidimetric LAL:
sensitivity: 0.01 – 100 EU/ml
Kinetic Chromogenic LAL:
sensitivity: 0.005 – 50 EU/ml
- NIH-3T3 fibroblasts activation-cytokine assay
sensitivity: 10-20 pg/ml = 0.1-0.2 EU/ml³

¹ Rosimar L. Silveira, et al. Comparative evaluation of pyrogens tests in pharmaceutical products. Brazilian Journal of Microbiology (2004) 35: 48-53.

² Endotoxin Compendium, V 2.6, Hyglos GmbH

³ Fraunhofer Institut für Grenzflächen- und Bioverfahrenstechnik, Jahresbericht 2006/2007, page 62

Endotoxin unit definition

Endotoxin unit (EU) describes the biological activity of an endotoxin molecule.

The **biological activity** causing pyrogenic effects depends on a variety of factors like polysaccharide chain length, aggregation status, solubility in biological fluids, bacterial source, associated substances, etc.¹

1 EU corresponds to ~100 pg of endotoxin.

1 EU = 1 IU

(common standard for the United States Pharmacopoeia, the World Health Organization and the European Pharmacopoeia)

¹ Endotoxin Compendium, V 2.6, Hyglos GmbH

4 Specifications

LPS Binding Ligand	EndoTrap® HD ligand
	Protein structure: homo-trimer
	Molecular weight: 150 kDa (trimer)
	Binding constant: $KD = 5 \times 10^{-8} \text{ M}$
	Isoelectric point: 8.52
Bead Matrix	Hydrophilic, cross-linked methacrylic polymer
	Particle size range: 40 – 90 μm
	Exclusion limit: 5000 kDa (globular proteins) 1000 kDa (PEG)
	Mean pore diameter: 1000 \AA
EndoTrap® HD	Immobilized ligand: approx. 1 - 3 mg/ml
	Binding capacity: $> 5 \times 10^6 \text{ EU/ml resin}$
	Operating pH range: pH 4 - 10
	Operating flow rate: maximum 600 – 840 cm/h
	Operating pressure: up to 0.3 MPa is recommended (maximum pressure drop on column is 0.7 MPa)
	Temperature stability: 4 – 35 $^{\circ}\text{C}$
	Ligand leakage: $< 20 \text{ ng/ml}$
	Shipping condition: ambient temperature

5 Operating, Column dimension & Applications

Content of Chapter 5

Chapter 5 provides a detailed operating guidance and application data referring to the **Package Insert**:

- Operating
- Column dimension
- Equilibration buffer
- Samples to be applied
- Tested LPS sources
- Applications data:
 - pH
 - Ionic strength
 - Sanitisation buffers
 - Applied samples: BSA, IgG, Lysozym
 - Pressure / flow comparison
 - Reusibility

6 Product stability

<p>A) Chemical stability</p>	<p>Discusses all leakage studies performed, including detection and quantification of extractable compounds.</p> <p>There is also information on shelf life and storage stability.</p>
<p>B) Chromatographic stability</p>	<p>Is deduced from the results of the stability studies on the chromatographic medium, i.e. the elution pattern behaviour and the pressure/flow rate changes after treatment with different physical conditions and chemical agents.</p>

A) Chemical stability

6.1 LPS-binding ligand

Please see chapter 7.1.

6.2 Bead resin

Please see chapter 7.2.

6.3 Matrix (EndoTrap HD)

Please see chapter 7.3.

6.4 Protease

Protease
as sample

Proteases may destroy the EndoTrap® ligand during LPS removal. Please perform the cleaning steps at conditions where the protease is less active, e.g. 4°C, or change the buffer composition if possible.

Example: When using pepsin, work above pH 6 since pepsin is an acidic protease..

6.5 Storage

Storage	Unused resin can be stored in the container. Ensure that the container is densely closed. EndoTrap HD is delivered in 20 mM sodium phosphate 150 mM NaCl, 2 mM EDTA, pH 7.4, 2.5 ppm ProClin™
	Fresh material: at 2-8 °C as supplied
	Regenerated material: at 2-8 °C in storage buffer supplemented with 2.5 ppm ProClin™ or 0.02% sodium azide
	Note: Do not freeze!

6.6 Shelf life

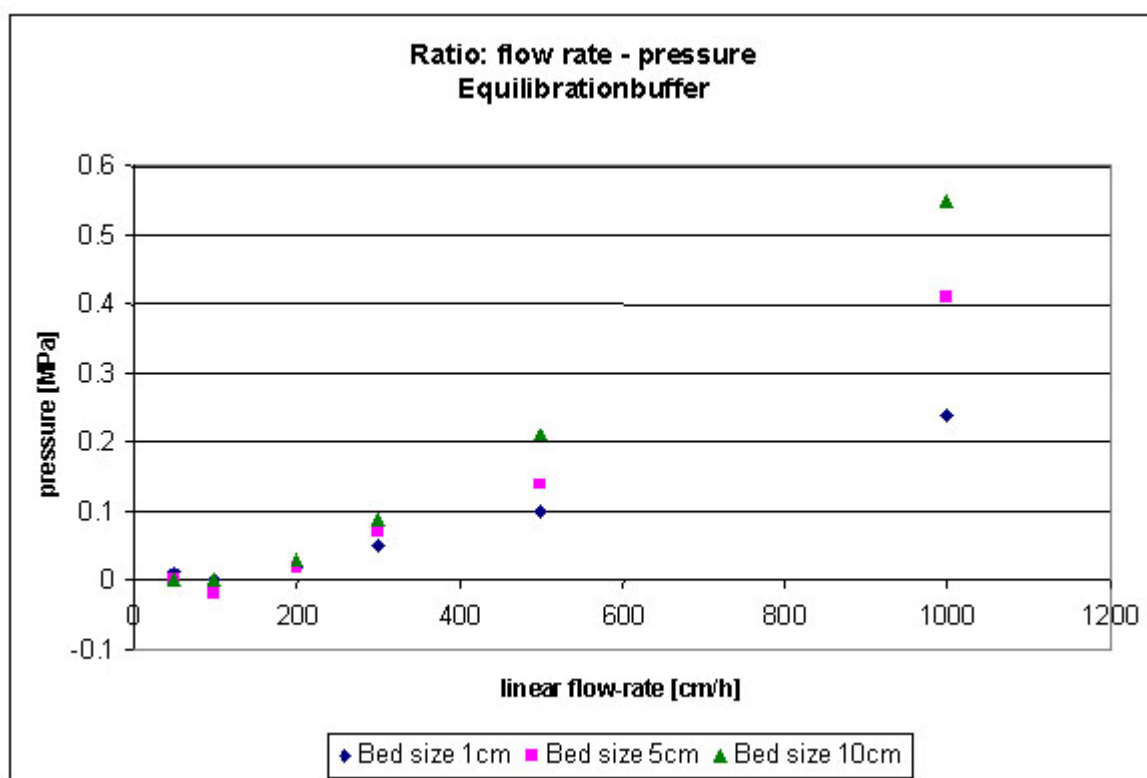
Shelf life	24 month for unused material when stored at 2-8 °C. Unused material is stable until the stated expiry date when stored correctly (at 2-8°C).
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B) Chromatographic stability

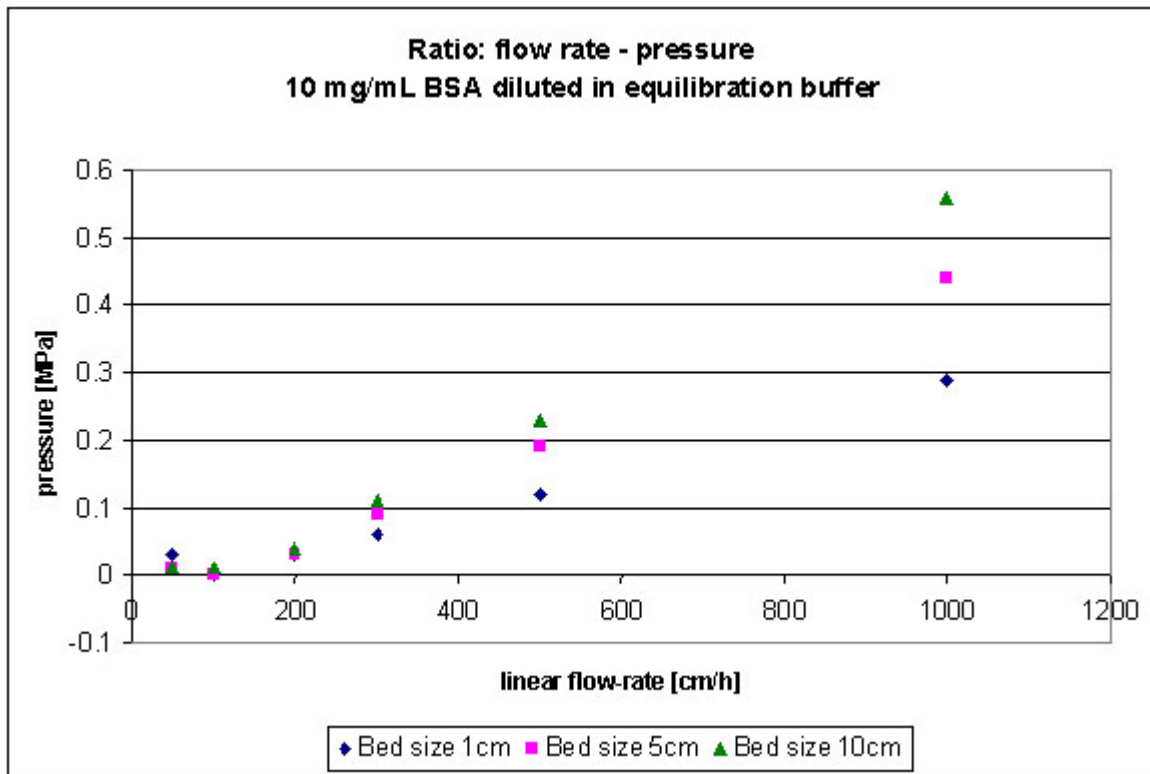
6.7 Pressure / flow comparison

Flow rate [cm/h]	Bed size: 1 cm		Bed size: 5 cm		Bed size: 10 cm	
	Pressure [MPa]: buffer	Pressure [MPa]: BSA	Pressure [MPa]: buffer	Pressure [MPa]: BSA	Pressure [MPa]: buffer	Pressure [MPa]: BSA
50	0.01	0.03	0	0.01	0	0.01
100	0	0	0	0	0	0.01
200	0.02	0.03	0.02	0.03	0.03	0.04
300	0.05	0.06	0.07	0.09	0.09	0.11
500	0.1	0.12	0.14	0.19	0.21	0.23
1000	0.24	0.29	0.41	0.44	0.55	0.56

Pressure / flow comparison: The pressure / flow comparison between buffer (20 mM Hepes, pH 7.4; 150 mM NaCl, 0.1 mM CaCl₂) and BSA (10 mg/ml dissolved in buffer). The pressure / flow data were determined in Millipore Vantage column (diameter 16 mm, height 250 mm) packed to a bed height as indicated using equilibration buffer as the mobile phase at 20°C.



Equilibration buffer



BSA solution [10 mg/ml]

6.8 Elution pattern behaviour

Please look into chapter 8.

6.9 Regeneration

Regeneration	EndoTrap HD can be regenerated under mild conditions by complexing Ca^{2+} with EDTA at elevated ionic strength.
	Regeneration buffer: 20 mM HEPES, 1 M NaCl, 2 mM EDTA, pH 7.5
	Protocol: Clean the column with 6 column volumes regeneration buffer.
	Flow rate: 600 – 840 cm/hr

6.10 Re-usability

Cycle number	Endotoxin removal efficiency [%]	Sample Recovery BSA [%]
0	99.9955641	102.5
1	99.9946041	99.5
2	99.9948371	97.5
3	99.9948335	99.5
4	99.9946371	96
5	99.9948401	97
6	99.9944963	97
7	99.9949815	97
8	99.9913897	96.5
9	99.9945602	96
10	99.9955641	102.5

Re-usability: 100 ml BSA solution (10 mg/ml) was spiked with 10^6 endotoxin units and endotoxin removal by EndoTrap HD (10 ml column) was measured. After each removal step the resin was regenerated with regeneration buffer and equilibrated with Hepes buffer (20 mM Hepes, pH 7.5; 150mM NaCl, 0.1 mM CaCl₂) before starting the next cycle.

6.11 Cleaning in place (CIP)

Cleaning in place	CIP should remove tightly bound, precipitated or denatured substances from the purification system.
	CIP buffer: 20 mM Tris, pH 8.0 supplemented with 6 M Urea or 2 M GdnHCl
	Protocol: Clean the column with 6 column volumes CIP buffer.
	Flow rate: 600 – 840 cm/hr

6.12 Sanitisation

Sanitisation	Sanitisation reduces microbial contamination of the resin to a minimum.
	Recommended sanitisation buffer: 0.1 M Acetic acid + 20% Ethanol
	Protocol: Incubate the column with sanitisation buffer for 2 – 12 hours.

Sanitisation buffer	Incubation time	Factor of reduction [CFU]	
		<i>Listeria</i>	<i>E.coli</i>
0.1 M Acetic acid + 20% EtOH	4 hours	> 10 ⁷	> 10 ⁷
70% EtOH	6 hours	> 10 ⁷	> 10 ⁷
0.1 M HCl	6 hours	> 10 ⁷	> 10 ⁷

Sanitisation test: Batch mode: Endotoxin removal of 1.5 ml endotoxin spiked BSA (20 mg/ml, 600 EU/ml) with 0.1 ml EndoTrap HD resin. The indicated sanitisation buffer provided 100% reduction of bacterial contamination (10⁷ CFU incubated for indicated time). Endotoxin removal is not affected when resin is exposed to the same buffers for 24 hours.

7 Analytical methods

Protocols of listed analytical methods are available on request.

LPS-binding ligand	<ul style="list-style-type: none"> - LPS concentration - Microbial contamination - Purity of the ligand
Bead resin	<ul style="list-style-type: none"> - particle size distribution - coupled protein amount
Matrix (EndoTrap HD)	<ul style="list-style-type: none"> - LPS binding capacity - LPS removal efficiency - Microbial contamination - Ligand leakage

7.1 Analytical methods for the LPS-binding ligand

Specifications / Characteristics	Limit	Analytical method
LPS concentration	< 15 EU/mg	EndoZyme® recombinant Factor C (rFC) endotoxin detection assay LAL assay “Kinetic Chromogenic LAL assay”
Microbial contamination (microorganism / ml suspension)	< 10 cfu/ml	Bacterial growth on plates
Purity of the LPS-binding protein (ligand)	> 97.5% no aggregates visibly no foreign protein visible	Gel filtration UV spectrum SDS-PAGE Fluorescence spectrum (310-330 nm)
Concentration of the LPS-binding protein (ligand)		UV spectrum

7.2 Analytical methods for the bead resin

Specifications / Characteristics	Limit	Analytical method
Particle size distribution ¹	> 80% of the particles must be between 40-90 µm	It is measured using a Coulter Counter according to manufacturer's protocol (Coulter Electronics).
Exclusion limit ²	♣	♣
Microbial contamination ²	♣	♣
LPS concentration ²	♣	♣
Eluable matter ²	♣	♣
Colored particles and other foreign substances ²	♣	♣

QC Methods²
Tosoh Bioscience

All Toyopearl resins are tested before release. All Tosoh Bioscience resins are inspected for the presence of any foreign material before release.

♣ Please contact Tosoh Bioscience for more detailed information.

¹ Toyopearl® AffiPak™ ACT LabPak Sampler, Tosoh Bioscience

² Drug Master File for Toyopearl® Chromatographic Resins, File Number BB-MF-3907, February 2006, Tosoh Bioscience LLC

7.3 Analytical methods for matrix

Specifications / Characteristics	Limit	Analytical method
Coupled protein amount	≥ 4 mg/ml beads	Indirectly via A280, measurement of the ligand concentration difference before and after coupling
LPS binding capacity	$\geq 5 \times 10^6$ EU/ml resin 1.5 ml BSA [10 mg/ml] on 0.3 mL resin, spiked with 4.5×10^6 EU LPS)	Indirect via LAL assay (before / after using EndoTrap HD)
LPS removal efficiency	$\geq 99\%$ (from 1.5 ml BSA [10 mg/ml]] on 0.3 mL resin, spiked with 7.5×10^3 EU LPS)	Indirect via LAL assay (before / after using EndoTrap HD)
Microbial contamination	< 10 cfu/ml	Bacterial growth on plates
Ligand leakage	< 20 ng/mg	Leakage ELISA, according to LIONEX protocol

8 Extractable compounds

8.1 Extractable compounds from bead resin (Toyopearl)¹

An activated bead matrix is used for the coupling of EndoTrap ligand. Leakage of residual monomers and reactants from EndoTrap HD has not been tested. Please contact Tosoh Bioscience for more detailed information.

8.2 Extractable compounds from manufacturing process

Raw materials used in the manufacture of EndoTrap HD, which may give rise to potential contaminants are shown below:

Extractable compounds	Analytical methods
Boric acid, EDTA, GdnHCl, Citrate, Ethanolamin, NaCl	<p>A chromogenic assay for EDTA has been reported.</p> <p>(Sorensen, K., An easy microtiter plate-based chromogenic assay for ethylenediaminetetraacetic acid and similar chelating agents in biochemical samples. Anal. Biochem., 206(1), 210-211 (1992))</p>

¹ Drug Master File for Toyopearl® Chromatographic Resins, File Number BB-MF-3907, February 2006, Tosoh Bioscience LLC

8.3 Extractable compounds from EndoTrap HD

To ensure low ligand leakage we recommend starting the protocol with a regeneration step followed by an equilibration step, therefore the concentration of leached ligand in fractions should be in the range of 300 pg/ml to 10 ng/ml.

Our experiments showed that the first column volume of sample has a higher ligand leakage than the rest of the purified sample. To ensure the lowest ligand concentration in your sample we recommend collecting the first column volume separately.

When applying concentrated sample solutions (e.g. > 5 mg/ml) the concentration of leached ligand could be up to 20 ng/ml in the very first fraction.

Extractable compounds	Amount	Analytical methods
LPS-binding ligand	< 20 ng/ml	EndoTrap Leakage ELISA, according to LIONEX protocol

Extractable compounds from bead resin

(please see 8.1)

8.4 Extractable compounds from storage buffers

Raw materials used in the manufacture of EndoTrap HD, which may give rise to potential contaminants are shown below:

Extractable compounds	Amount	Analytical methods
ProClin™ 150	2.5 ppm	Literature from Sigma-Aldrich available:
<u>Active Ingredients:</u>	<u>CAS-numbers:</u>	Analytical Technique - Chemical Standards: <i>ProClin 150 Preservative for Diagnostic Reagents</i>
- 5-chloro-2-methyl-4-isothiazolin-3-one	26172-55-4	
- 2-methyl-4-isothiazolin-3-one	2682-20-4	
- magnesium chloride	14989-29-8	
- magnesium nitrate	10377-60-3	
<u>Others:</u>		For EDTA please see 8.2
Tris, NaCl, EDTA		

9 EndoTrap Leakage ELISA

Introduction

Depending on the intended use of the preparation and the step in the purification (early or late), where EndoTrap is used, a quantitative analysis of residual EndoTrap ligand might be required.

The EndoTrap Leakage ELISA has been developed to allow an accurate and reproducible determination of small amounts of EndoTrap ligand in biological samples.

This ELISA is suitable for detection of leached ligand from EndoTrap HD resin and EndoTrap blue resin.

9.1 Specifications of EndoTrap Leakage ELISA

Intended use	Quantification of EndoTrap HD ligand leakage in biological aqueous solutions.
Specificity	Two specific monoclonal antibodies to EndoTrap ligand (EndoTrap HD or EndoTrap blue) are used in the assay. Cross-reaction with other proteins is not known. This ELISA is not suitable to detect leached EndoTrap red ligand.
Measuring range	2000 pg/ml to 30 pg/ml
Limit of Quantification (LOQ)	30 pg/ml EndoTrap ligand

9.2 Package Insert EndoTrap Leakage ELISA

Package insert including detailed operating guidance is enclosed on the following pages.

10 Toxicological data

10.1 Toxicological data – EndoTrap ligand

The EndoTrap ligand is a protein by nature, which is bound to the polymeric bead-matrix by stable covalent bonds. However, leakage of minute amounts of ligand is a matter of fact for all affinity materials. Depending on the intended use of the preparation and the step in the purification (early or late), where EndoTrap is used, different amount of EndoTrap ligand will leached into the sample pool.

To make a statement regarding the immunomodulatory and toxicological properties of the EndoTrap ligand several in-vitro studies were performed:

<p>Immunomodulatory properties in cultures of murine splenocytes</p>	<p><u>Study design:</u> Determination of the immunostimulatory properties of EndoTrap HD ligand in the murine splenocyte model system. In this assay system murine splenocytes/ml were stimulated with 20 µl (corresponding to 20 µg antigen) of EndoTrap HD ligand. Indicated cytokines were determined from the precleared supernatants using commercial kits.</p>
	<p><u>Conclusion:</u> These experiments clearly demonstrate, that under the reported conditions EndoTrap HD antigen revealed no detectable pyrogenic and mitogenic properties to activate the innate immune system. [Report LO-060005 attached.]</p>
<p>Tests for cytotoxicity: <i>in vitro</i>-methods DIN ISO 10993-5 Testung der biologischen Verträglichkeit / Biokompatibilität nach DIN ISO 10993-5</p>	<p><u>Study design:</u> Determination of the cytotoxicity of EndoTrap HD ligand in the murine fibroblast cell line L929 according to ISO 10993-5. Following criteria were addressed: Influence of EndoTrap HD ligand on</p> <ul style="list-style-type: none"> - the cell vitality (fluorescein-diacetate (FDA) / propidium iodide staining (PI)) - mitosis activity (fluorescein-diacetate / propidium iodide staining) - cell density and cell spread (fluorescein-diacetate / propidium iodide staining) - cell morphology / cell spread (Hemalaun stainig) - metabolic activity (quantitation of cellular protein using a Bradford assay) - DNA synthesis (3H thymidine incorporation)

Conclusion:

These experiments clearly demonstrate, that under the reported conditions EndoTrap HD antigens revealed no detectable cytotoxic effects in cultures of murine L929 fibroblasts and splenic cells.

[Report LO-060006 attached.]

10.2 Toxicological data – bead matrix

Please contact Tosoh Bioscience for more detailed information¹.

¹ Drug Master File for Toyopearl® Chromatographic Resins, File Number BB-MF-3907, February 2006, Tosoh Bioscience LLC

10.3 Toxicological data – Raw material

Substance	Supplier Catalogue number CAS-numbers	Comment
Storage buffer: ProClin™ 150	Supelco (Sigma-Aldrich) Cat. no. 49376-U	Please use TOXNET or HSDB for detailed information.
<u>Active Ingredients:</u> - 5-chloro-2-methyl-4- isothiazolin-3-one - 2-methyl-4-isothiazolin- 3-one - magnesium chloride - magnesium nitrate	<u>CAS-numbers:</u> 26172-55-4 2682-20-4 14989-29-8 10377-60-3	<u>Hazards (risk):</u> R23/24/25, R34, R43, R50/53 R8, R36
Residual monomers and reactants from bead matrix:	Please contact Tosoh Bioscience for more detailed information.	

TOXNET - Databases on toxicology, hazardous chemicals, environmental health, and toxic releases:

<http://toxnet.nlm.nih.gov/>

Hazardous Substances Data Bank – HSDB:

<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>

11 Application Examples

11.1 Influence of buffer additives

Buffer additives	Endotoxin removal efficiency [%]	“Suitable”
Imidazol, 50 mM	99.989	Yes
Imidazol, 300 mM	99.989	Yes
Glycerin, 2%	99.994	Yes
Glycerin, 10%	99.994	Yes
Glycerin, 20%	99.979	Yes
Urea, 0.5 M	99.993	Yes
Urea, 1 M	99.990	Yes
Urea, 1.5 M	99.992	Yes
DTT, 1 mM	99.991	Yes
DTT, 10 mM	99.977	Yes
DTT, 15 mM	99.957	Yes
Tween20, 0.005%	99.992	Yes
Tween20, 0.05%	99.994	Yes
Tween20, 0.5%	99.995	Yes
EtOH, 10%	99.990	Yes
EtOH, 20%	99.983	Yes
Arginin, 10 mM	99.985	Yes
Arginin, 100 mM	99.952	No
Arginin, 300 mM	99.927	No

Influence of buffer additives on endotoxin removal efficiency: Batch mode (200 µl resin): 1.5 ml endotoxin spiked BSA (10 mg/ml, 10,000 EU/ml) was incubated in HEPES buffer (20 mM HEPES, pH 7.5, 150 mM NaCl, 0.1 mM CaCl₂) with the indicated additives for 60 minutes and endotoxin removal by EndoTrap HD was measured.

Positive control: HEPES buffer spiked with BSA (10 mg/ml, 10,000 EU/ml) without additives.

12 Supplementary Information

12.1 CoA – Certificate of Analysis

End-product: EndoTrap® HD

CoA's is enclosed on the following pages.

12.2 MSDS – Material Safety Data Sheet

MSDS – Europe	EndoTrap HD
MSDS – US	EndoTrap HD

MSDS's are enclosed on the following pages.

12.3 Drug Master File – Toyopearl

DMF:

Toyopearl Affinity Resin

Toyopearl Epoxy Resin

Please contact Tosoh Bioscience for any information considering the “Drug Master File”: Toyopearl® Affinity Resin or any other question regarding Toyopearl® Epoxy Affinity Resin.

Europe:

Tosoh Bioscience GmbH
Zettachring 6
DE-70567 Stuttgart
www.tosohbioscience.de

United States:

Tosoh Bioscience LLC
156 Keystone Drive
USA - Montgomeryville, PA 18936-9637
www.tosohbioscience.com

12.4 List of Trademarks

EndoTrap®	is a registered international trademark of Hyglos GmbH exclusively licensed to LIONEX GmbH, Germany.
EndoLISA®	is a registered international trademark of Hyglos GmbH, Germany.
EndoZyme®	is a registered international trademark of Hyglos Invest GmbH, Germany.
TOYOPEARL®	is registered trademark of Tosoh Corporation, the parent company of Tosoh Bioscience.
ProClin™	is a registered trademark of Rohm and Haas Company.
Tween20®	is a registered trademark of ICI America, Inc.

12.5 Customer publications and reference list

For **EndoTrap®** product information please contact

LIONEX GmbH, Salzdahlumer Strasse 196, 38126 Braunschweig, Germany



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269 [Hietala, Ville et.al.](#): **The Removal of Endo- and Enterotoxins From Bacteriophage Preparations** *Front. Microbiol.*, 23 July 2019 <https://doi.org/10.3389/fmicb.2019.01674>

2015

268 Robert, Leah: **Bacteriophages for use against bacterial infections**, www.freepatentsonline.com/y2015/0247127.html

267 Rolando, Monica et. al.: **Contractile actin cables induced by Bacillus anthracis lethal toxin depend on the histone acetylation machinery Cytoskeleton**. onlinelibrary.wiley.com/doi/10.1002/cm.21256/abstract

266 Guillou, Clément et. al.: **Prophylactic Injection of Recombinant Alpha-Enolase Reduces Arthritis Severity in the Collagen-Induced Arthritis Mice Model PLoS ONE 10 Issue 8, P. e0136359**. journals.plos.org/plosone/article?id=10.1371/journal.pone.0136359

- 265 Majewska, Joanna et. al.: **Oral Application of T4 Phage Induces Weak Antibody Production in the Gut and in the Blood** *Viruses* 7 Issue 8, P. 4783–4799.
www.mdpi.com/1999-4915/7/8/2845
- 264 Saunders, Kevin O. et. al.: **Broadly Neutralizing Human Immunodeficiency Virus Type 1 Antibody Gene Transfer Protects Nonhuman Primates from Mucosal Simian-Human Immunodeficiency Virus Infection** *Journal of Virology* 89 Issue 16, P. 8334–8345. <https://jvi.asm.org/content/89/16/8334.full>
- 263 Ji, Jing et. al.: **The B subunit of Escherichia coli heat-labile toxin alters the development and antigen-presenting capacity of dendritic cells** *Journal of Cellular and Molecular Medicine* 19 Issue 8, P. 2019–2031.
onlinelibrary.wiley.com/doi/10.1111/jcmm.12599/abstract
- 262 Devera, T. Scott et. al.: **Immunization of Mice with Anthrax Protective Antigen Limits Cardiotoxicity but Not Hepatotoxicity Following Lethal Toxin Challenge** *Toxins* 7 Issue 7, P. 2371–2384. www.mdpi.com/2072-6651/7/7/2371
- 261 Johansson, Ulrika et. al.: **Pancreatic Islet Survival and Engraftment Is Promoted by Culture on Functionalized Spider Silk Matrices** *PLoS ONE* 10 Issue 6,
www.ncbi.nlm.nih.gov/pmc/articles/PMC4474965/.
- 260 Boettcher, Brian R. et. al.: **Fusion proteins for treating metabolic disorders**,
www.google.com/patents/US20150166622.
- 259 Park, Sung-Hyun et. al.: **The Effects of Antigen-Specific IgG1 Antibody for the Pulmonary-Hypertension-Phenotype and B Cells for Inflammation in Mice Exposed to Antigen and Fine Particles from Air Pollution** *PLoS ONE* 10 Issue 6, P. e0129910. dx.doi.org/10.1371/journal.pone.0129910
- 258 Mangino, Giorgio et. al.: **HIV-1 Myristoylated Nef Treatment of Murine Microglial Cells Activates Inducible Nitric Oxide Synthase, NO₂ Production and Neurotoxic Activity** *PLoS ONE* 10 Issue 6, P. e0130189.
dx.doi.org/10.1371/journal.pone.0130189
- 257 Grainger, David John/Fox, David: **Anti-inflammatory Compositions**,
www.freepatentsonline.com/y2015/0141460.html.
- 256 Alhamdi, Yasir et. al.: **Circulating Pneumolysin Is a Potent Inducer of Cardiac Injury during Pneumococcal Infection** *PLoS Pathog* 11 Issue 5, P. e1004836.
dx.doi.org/10.1371/journal.ppat.1004836
- 2015** continued
- 255 Kim, Do Hyung et. al.: **House Dust Mite Allergen Regulates Constitutive Apoptosis of Normal and Asthmatic Neutrophils via Toll-Like Receptor 4** *PLoS ONE* 10 Issue 5, P. e0125983. dx.doi.org/10.1371/journal.pone.0125983
- 254 Ren, Steven Shijun/Jin, Li: **Transmucosal Delivery of Engineered Polypeptides**,
www.freepatentsonline.com/y2015/0133373.html.

- 253 Nääv, Åsa et. al.: **A1M Ameliorates Preeclampsia-Like Symptoms in Placenta and Kidney Induced by Cell-Free Fetal Hemoglobin in Rabbit** *PLoS ONE* 10 Issue 5, P. e0125499. [dx.doi.org/10.1371/journal.pone.0125499](https://doi.org/10.1371/journal.pone.0125499)
- 252 Boettcher, Brian R. et. al.: **Fibroblast growth factor 21 mutations**, www.google.com/patents/US9023791.
- 251 Saunders, Kevin O. et. al.: **Sustained delivery of a broadly neutralizing antibody in non-human primates confers long-term protection against SHIV infection** *Journal of Virology*, P. JVI.00210–15. jvi.asm.org/content/early/2015/03/12/JVI.00210-15
- 250 Richter, Maximilian et. al.: **Preclinical safety and efficacy studies with an affinity-enhanced epithelial junction opener and PEGylated liposomal doxorubicin** *Molecular Therapy. Methods & Clinical Development* 2, P. 15005. www.ncbi.nlm.nih.gov/pmc/articles/PMC4445001/
- 249 Kwon, Min Seong et. al. **Methemoglobin Is an Endogenous Toll-Like Receptor 4 Ligand—Relevance to Subarachnoid Hemorrhage** *International Journal of Molecular Sciences* 16 Issue 3, P. 5028–5046. www.mdpi.com/1422-0067/16/3/5028
- 248 Kolata, Julia et. al.: **The fall of a dogma? Unexpected high T cell memory response to *S. aureus* in humans** *Journal of Infectious Diseases*, P. jiv128. jid.oxfordjournals.org/content/early/2015/03/02/infdis.jiv128
- 247 Guillon, Christophe et. al.: **A Staggered Decameric Assembly of Human C-Reactive Protein Stabilized by Zinc Ions Revealed by X-ray Crystallography** *Protein and Peptide Letters* 22 Issue 3, P. 248–255. benthamscience.com/journal/abstracts.php?journalID=ppl&articleID=127256
- 246 Lin, Chi-Chen et. al. **The Adjuvant Effects of High-Molecule-Weight Polysaccharides Purified from *Antrodia cinnamomea* on Dendritic Cell Function and DNA Vaccines** *PLoS ONE* 10 Issue 2, P. e0116191. journals.plos.org/plosone/article?id=10.1371/journal.pone.0116191
- 245 Sanjurjo, Lucía et. al. **The human CD5L/AIM-CD36 axis: A novel autophagy inducer in macrophages that modulates inflammatory responses** *Autophagy* 0 Issue ja, P. 00–00. www.tandfonline.com/doi/abs/10.1080/15548627.2015.1017183#.VQmsQuEk0bg
- 244 Karmakar, Mausita et. al. **Neutrophil IL-1 β Processing Induced by Pneumolysin Is Mediated by the NLRP3/ASC Inflammasome and Caspase-1 Activation and Is Dependent on K⁺ Efflux** *The Journal of Immunology* 194 Issue 4, P. 1763–1775. www.jimmunol.org/content/early/2015/01/20/jimmunol.1401624
- 243 Kojima, Soichi et. al.: **Compounds having activity of suppressing activation of TGF- β receptor, method for screening of the compounds, and composition for preventing or treating disease caused by hepatitis C virus**, www.google.com/patents/US8951521

2015 continued

- 242 Hartung, Evelyn et. al. **Induction of Potent CD8 T Cell Cytotoxicity by Specific Targeting of Antigen to Cross-Presenting Dendritic Cells In Vivo via Murine or Human XCR1** *The Journal of Immunology* 194 Issue 3, P. 1069–1079
www.jimmunol.org/content/194/3/1069
- 241 Anatolevna, Irina: **Specialty dietary products for preventive nutrition based on a bacteriophage cocktail: Design, production, technology rating, safety and efficiency**, Moscow, www.gabrich.ru/files/pdf/kiseleva-diss.pdf
- 240 Reinhardt, Katharina: **Role of monocyte-induced development of Th17 cells, the heat shock protein 90 and proinflammatory S100 proteins in the pathogenesis of graft-versus-host disease**, <https://publikationen.uni-tuebingen.de/xmlui/handle/10900/58992>
- 239 Stowell, Sean R./Cummings, Richard D. **Examination of the Role of Galectins in Plasma Cell Differentiation - Springer**, link.springer.com/protocol/10.1007/978-1-4939-1396-1_10

2014

- 238 Schäffler, Holger et. al. **NOD2 Stimulation by Staphylococcus aureus-Derived Peptidoglycan Is Boosted by Toll-Like Receptor 2 Costimulation with Lipoproteins in Dendritic Cells** *Infection and Immunity* 82 Issue 11, P. 4681–4688.
iai.asm.org/content/82/11/4681
- 237 Reinhardt, Katharina et. al. **Monocyte-Induced Development of Th17 Cells and the Release of S100 Proteins Are Involved in the Pathogenesis of Graft-versus-Host Disease** *The Journal of Immunology* 193 Issue 7, P. 3355–3365.
www.jimmunol.org/content/193/7/3355
- 236 Li, Dong **The role of interleukin-33 in mucosal inflammation and fibrosis**, encore.lib.gla.ac.uk/iii/encore/record/C_Rb3080838
- 235 Gram, Magnus et. al. **Extracellular hemoglobin - mediator of inflammation and cell death in the choroid plexus following preterm intraventricular hemorrhage** *Journal of Neuroinflammation* 11 Issue 1, P. 200
www.jneuroinflammation.com/content/11/1/200
- 234 Buschmann, Kirsten et. al. **RAGE controls leukocyte adhesion in preterm and term infants** *BMC Immunology* 15 Issue 1, P. 53 www.biomedcentral.com/1471-2172/15/53/abstract
- 233 Navarro, S. et. al. **Bystander immunotherapy as a strategy to control allergen-driven airway inflammation** *Mucosal Immunology*,
www.nature.com/mi/journal/vaop/ncurrent/full/mi2014115a.html

- 232 Bauzon, Maxine/Hermiston, Terry **Short-acting Factor VII polypeptides**, www.freepatentsonline.com/y2014/0363419.html
- 231 Olden, Robin: **Circulating Pneumolysin Is a Potent Inducer of Cardiac Injury during Pneumococcal Infection**, Cardiff, <https://orca.mwe.cf.ac.uk/73439/2/2015robinoldenphd.pdf>
- 230 Dąbrowska, Krystyna et. al. **Immunogenicity studies of proteins forming the T4 phage head surface** *Journal of Virology*, P. JVI.02043–14 jvi.asm.org/content/early/2014/08/18/JVI.02043-14
- 229 Ackaert, Chloé et. al. **The Impact of Nitration on the Structure and Immunogenicity of the Major Birch Pollen Allergen Bet v 1.0101** *PLoS ONE* 9 Issue 8, P. e104520 www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0104520

2014 continued

- 228 Abdin, M. J. et. al. **In silico designed nanoMIP based optical sensor for endotoxins monitoring** *Biosensors and Bioelectronics* Issue available online, www.sciencedirect.com/science/article/pii/S0956566314005971
- 227 Nayak, Sukanta Kumar et. al. **Immune responses to live and inactivated *Nocardia seriolae* and protective effect of recombinant interferon gamma (rIFN γ) against nocardiosis in ginbuna crucian carp, *Carassius auratus langsdorfii*** *Fish & Shellfish Immunology* 39 Issue 2, P. 354–364 www.sciencedirect.com/science/article/pii/S1050464814001648
- 226 Ise, Wataru et. al. **Memory B cells contribute to rapid Bcl6 expression by memory follicular helper T cells** *Proceedings of The National Academy of Sciences*, P. 201404671 www.pnas.org/content/early/2014/07/24/1404671111.short
- 225 Leu, Chuen-Miin et. al. **The hepatitis B virus e antigen suppresses the respiratory burst and mobility of human monocytes and neutrophils** *Immunobiology* www.sciencedirect.com/science/article/pii/S0171298514001211
- 224 Roth, Tobias **Characterization of a delta rodA mutant in *Staphylococcus carnosus*** University Tübingen <https://publikationen.uni-tuebingen.de/xmlui/handle/10900/54819>
- 223 Fuchs, Manon et. al. **Novel human recombinant antibodies against *Mycobacterium tuberculosis* antigen 85B** *BMC Biotechnology* 14 Issue 1, P. 68 www.pnas.org/content/early/2014/07/24/1404671111.short
- 222 Lin, Tzu-Lung et. al. **Isolation of a bacteriophage and its depolymerase specific for K1 capsule of *Klebsiella pneumoniae*: implication in typing and treatment** *Journal of Infectious Diseases*, P. jiu332 jid.oxfordjournals.org/content/early/2014/07/07/infdis.jiu332.short

- 221 Rivera, Johanna et. al. **Platelet-activating Factor Contributes to *Bacillus anthracis* Lethal Toxin-associated Damage** *Journal of Biological Chemistry* 289 Issue 10, P. 7131–7141
www.jbc.org/content/early/2014/01/29/jbc.M113.524900.full.pdf+html
- 220 Dąbrowska, Krystyna et. al. **Bacteriophages displaying anticancer peptides in combined antibacterial and anticancer treatment** *Future Microbiology* 9 Issue 7, P. 861–869 www.futuremedicine.com/doi/abs/10.2217/fmb.14.50
- 219 Escoda-Ferran, Cristina et. al. **Modulation of CD6 function through interaction with Galectin-1 and -3** *FEBS Letters*
www.sciencedirect.com/science/article/pii/S0014579314004852
- 218 Itoh, Yasushi et. al. **Protective Efficacy of Passive Immunization with Monoclonal Antibodies in Animal Models of H5N1 Highly Pathogenic Avian Influenza Virus Infection** *PLoS Pathog* 10 Issue 6, P. e1004192
www.plospathogens.org/article/info%3Adoi%2F10.1371%2Fjournal.ppat.1004192
- 217 Zaiss, Mario M./Maslowski, Kendle M. **Identification of Helminth-induced Type 2 CD4+ T Cells and ILC2s** *Bio-protocol* 4 Issue 11, P. e1141 www.bio-protocol.org/e1141
- 216 Nishizawa, M. et. al. **Trehalose compound, method for producing same, and pharmaceutical product containing the compound**
www.google.com/patents/US8741871
- 215 Rohde, David et al. **S100A1 is released from ischemic cardiomyocytes and signals myocardial damage via Toll-like receptor 4** *The EMBO Journal*
embomolmed.embopress.org/content/early/2014/05/15/emmm.201303498.abstract

2014 continued

- 214 Guidato, Patrick Maximilian **Untersuchung der immunmodulatorischen Effekte von Arabinogalaktanen aus Callus Gewebekulturen in vivo und in vitro** Bochum
www-brs.ub.ruhr-uni-bochum.de/netahtml/HSS/Diss/GuidatoPatrickMaximilian/diss.pdf
- 213 Côté, Olivier et al. **Secretoglobin 1A1 and 1A1A Differentially Regulate Neutrophil Reactive Oxygen Species Production, Phagocytosis and Extracellular Trap Formation** *PLoS ONE* 9 Issue 4, P. e96217
www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0096217#pone-0096217-g007
- 212 Lin, Chi Chen et al. **Rice Bran Feruloylated Oligosaccharides Activate Dendritic Cells via Toll-Like Receptor 2 and 4 Signaling** *Molecules*, 19(4), P.5325-5347
www.mdpi.com/1420-3049/19/4/5325/htm
- 211 Liu, J. et al. **Identification and partial characterization of a Salp15 homolog from *Ixodes ricinus*** *Ticks and Tick-borne Diseases, Volume 5, Issue 3, P.318-322*

- www.sciencedirect.com/science/article/pii/S1877959X14000259
- 210 Moraes-Vieira, Pedro M. et. al. **RBP4 Activates Antigen-Presenting Cells, Leading to Adipose Tissue Inflammation and Systemic Insulin Resistance** *Cell Metabolism* 19 Issue 3, P. 512–526
www.sciencedirect.com/science/article/pii/S1550413114000242.
- 209 Skerra, Arne et. al. **Biological active proteins having increased in vivo and/or in vitro stability**, www.google.com/patents/US20140050693
- 208 Marek, Stefanie **Giardia duodenalis arginine deiminase and its role in host-parasite interplay** Humboldt-University Berlin edoc.hu-berlin.de/dissertationen/marek-stefanie-2013-11-22/METADATA/abstract.php?id=40500
- 207 Bourdin Gilles et al **Amplification and purification of T4-like Escherichia coli phages for phage therapy: from laboratory to pilot scale** *Applied and Environment Microbiology*, Volume 80, no. 4, 1469-1476 aem.asm.org/content/80/4/1469.short
- 206 Gitau, Evelyn N. et al **CD4+ T cell responses to the Plasmodium falciparum erythrocyte membrane protein 1 in children with mild malaria** *The Journal of Immunology*, 192:1753-1761
www.jimmunol.org/content/early/2014/01/22/jimmunol.1200547.short
- 205 Lagoumintzis, George et al. **Scale up and safety parameters of antigen specific immunoadsorption of human anti-acetylcholine receptor antibodies** *Journal of Neuroimmunology*, Volume 267, Issue 1, P.1-6
www.sciencedirect.com/science/article/pii/S016557281300310X
- 204 Moazzezy, Neda et al. **Effect of Shiga Toxin and its Subunits on Cytokine Induction in Different Cell Lines** *IJMCM*, Vol 3, No2
www.ijmcm.org/files/site1/user_files_a195ea/manaoloomi-A-10-211-1-27fe6eb.pdf
- 203 Staumont-Sallé, Delphine et al. **CX₃CL1 (fractalkine) and its receptor CX₃CR1 regulate atopic dermatitis by controlling effector T cell retention in inflamed skin** *Jem*, 211(6), P.1185-1196 jem.rupress.org/content/211/6/1185.abstract
- 202 Cooper, C.J. et al. **Stability and purity of a bacteriophage cocktail preparation for nebulizer delivery** *Letters in Applied Microbiology*, Volume 58, Issue 2, P.118-122
onlinelibrary.wiley.com/doi/10.1111/lam.12161/abstract
- 201 Guo Xiaohua et al. **Adiponectin retards the progression of diabetic nephropathy in db/db mice by counteracting angiotensin II** *Physiological Reports*, 2 (2), 2014, e00230 onlinelibrary.wiley.com/doi/10.1002/phy2.230/pdf
- 2014** continued
- 200 Campbell, Ian K. et al. **Therapeutic Effect of IVIG on Inflammatory Arthritis in Mice Is Dependent on the Fc Portion and Independent of Sialylation or Basophils** *The Journal of Immunology*

www.jimmunol.org/content/192/11/5031.short

- 199 Martínez-Sernández, Victoria et al. **The MF6p/FhHDM-1 major antigen secreted by the trematode parasite *Fasciola hepatica* is a heme-binding protein** *The Journal of Biological Chemistry*, 289, 1441-1456
www.jbc.org/content/289/3/1441.short

2013

- 198 Shibasaki, Yasuhiro et. al. **Peculiar monomeric interferon gammas, IFN γ rel 1 and IFN γ rel 2, in ginbuna crucian carp** *FEBS Journal* 281 Issue 4, P. 1046–1056.
onlinelibrary.wiley.com/doi/10.1111/febs.12666/abstract
- 197 Wu, Zeyu et al. **Protein Kinase C beta Mediates CD40 Ligand-Induced Adhesion of Monocytes to Endothelial Cells** *PLOS ONE*
www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0072593#pone-0072593-g008
- 196 Ferreira, Ivana et al. **Hookworm Excretory/Secretory Products Induce Interleukin-4 (IL-4)⁺ IL-10⁺ CD4⁺ T Cell Responses and Suppress Pathology in a Mouse Model of Colitis** *Infection and Immunity*
iai.asm.org/content/81/6/2104.short
- 195 Tumban, Ebenezer et al. **A universal virus-like particle-based vaccine for human papillomavirus: Longevity of protection and role of endogenous and exogenous adjuvants** *Vaccine*, Volume 31, Issue 41, P. 4647-4654
www.sciencedirect.com/science/article/pii/S0264410X13010098
- 194 Lee, Seung Jin et al. **BaeR protein from *Salmonella enterica* serovar Paratyphi A induces inflammatory response in murine and human cell lines** *Microbes and Infection*, Volume 15, Issue 13, P.951-957
www.sciencedirect.com/science/article/pii/S1286457913001743
- 193 Abate, et al. **Produced by $\gamma\delta_2$ T Cells Induces Human Macrophages to Inhibit Growth of an Intracellular Pathogen** *PLOS Medicine*
www.plospathogens.org/article/info%3Adoi%2F10.1371%2Fjournal.ppat.1003119#ppat-1003119-g004
- 192 Gram, Magnus et al. **Hemoglobin induces inflammation after preterm intraventricular hemorrhage by methemoglobin formation** *Journal of Neuroinflammation*, 10:100 www.jneuroinflammation.com/content/10/1/100
- 191 Miernikiewicz, Paulina et al. **T4 Phage and its head surface proteins do not stimulate inflammatory mediator production** *PLoS ONE* 8(8): e71036
www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0071036
- 190 Lorenz, Natalie et al. **Full functional activity of SSL7 requires binding of both complement C5 and IgA** *Immunology and Cell Biology*
www.nature.com/icb/journal/vaop/ncurrent/full/icb201328a.html

- 189 Schlapschy, Martin et al. **PASylation: a biological alternative to PEGylation for extending the plasma half-life of pharmaceutically active proteins** *Protein Engineering Design and Selection*, doi:10.1093/protein/gzt023
peds.oxfordjournals.org/content/early/2013/06/09/protein.gzt023

2013 continued

- 188 Katakura, Fumihiko et al. **Molecular and functional characterization of erythropoietin of the goldfish (*Carassius auratus L.*)** *Developmental & Comparative Immunology* 40 Issue 2, P. 148–157
www.sciencedirect.com/science/article/pii/S0145305X13000517
- 187 Stano, Armando et al. **Tunable T cell immunity towards a protein antigen using polymersomes vs. solid-core nanoparticles** *Biomaterials* 34 Issue 17, P. 4339–4346 www.sciencedirect.com/science/article/pii/S0142961213001932
- 186 Leah, Robert **Bacteriophages for use against bacterial Infections**
www.freepatentsonline.com/y2013/0121967.html
- 185 Akiyama, Hironori et al **A novel adipokine C1q/TNF-related protein 1 (CTRP1) regulates chondrocyte proliferation and maturation through the ERK1/2 signaling pathway** *Molecular and Cellular Endocrinology* 369 Issue 1–2, P. 63–71
www.sciencedirect.com/science/article/pii/S0303720713000166
- 184 Foell, Dirk et al **Pro-inflammatory S100A12 can Activate Human Monocytes via Toll-like Receptor 4**, www.atsjournals.org/doi/abs/10.1164/rccm.201209-1602OC
- 183 Banik, Stefanie et al **Giardia duodenalis arginine deiminase modulates the phenotype and cytokine secretion of human dendritic cells by depletion of arginine and formation of ammonia** *Infection and Immunity*
iai.asm.org/content/early/2013/04/10/IAI.00004-13
- 182 Triantafilou, Martha et al. **Synergic Activation of Toll-Like Receptor (TLR) 2/6 and 9 in Response to Ureaplasma parvum & urealyticum in Human Amniotic Epithelial Cells** *PLoS ONE* 8 Issue 4, P. e61199
dx.doi.org/10.1371/journal.pone.0061199
- 181 Lee, Haeyong et al **CD53, a suppressor of inflammatory cytokine production, is associated with population asthma risk via the functional promoter polymorphism – 1560 C>T** *Biochimica et Biophysica Acta (BBA) - General Subjects* 1830 Issue 4, P. 3011–3018
www.sciencedirect.com/science/article/pii/S0304416513000032
- 180 Mei-Hsing Chen et al. **Clitocybe nuda Activates Dendritic Cells and Acts as a DNA Vaccine Adjuvant** *Complementary and Alternative Medicine*
www.downloads.hindawi.com/journals/ecam/aip/761454.pdf

- 179 Schwörer, Daniela **Einfluss von Hitzeschockproteinen auf die MHC-II vermittelte T-Zellantwort - Identifizierung einer molekularen Bindestelle zwischen Hsp70 und HLA-DR** tobias-lib.uni-tuebingen.de/volltexte/2013/6711/
- 178 Nataro, James/Ruiz-Perez, Fernando: **Novel compositions and methods for treating inflammatory bowel disease and airway inflammation**, www.google.com/patents/US20130017173
- 177 Park, Young Woo et al. **Composition for inhibiting Cancer metastasis containing DLK1-FC fusion Protein as an active Ingredient** www.freepatentsonline.com/EP2548887.html
- 176 Park, Young Woo et al. **TNF-A and TWEAK Dual Antagonist for the Prophylaxis and Treatment of Autoimmune Diseases** www.freepatentsonline.com/y2013/0017226.html
- 175 Spencer, Charles T. et al. **Granzyme A Produced by γ 9 δ 2 T Cells Induces Human Macrophages to Inhibit Growth of an Intracellular Pathogen** *PLoS Pathog* 9 Issue 1, P. e1003119, dx.doi.org/10.1371/journal.ppat.1003119

2013 continued

- 174 Ferreira, Ivana et al. **Hookworm Excretory/Secretory Products Induce Interleukin-4 (IL-4)+ IL-10+ CD4+ T Cell Responses and Suppress Pathology in a Mouse Model of Colitis** *Infection and Immunity* 81 Issue 6, P. 2104–2111 iai.asm.org/content/81/6/2104
- 173 Mori, Kenichirou et al. **Oral administration of carbonic anhydrase I ameliorates murine experimental colitis induced by Foxp3–CD4+CD25– T cells** *Journal of Leukocyte Biology* 93 Issue 6, P. 963–972 www.jleukbio.org/content/93/6/963
- 172 Ghose, Chandrabali et al. **Toll-Like Receptor 5-Dependent Immunogenicity and Protective Efficacy of a Recombinant Fusion Protein Vaccine Containing the Nontoxic Domains of *Clostridium difficile* Toxins A and B and *Salmonella enterica* Serovar Typhimurium Flagellin in a Mouse Model of *Clostridium difficile* Disease** *Infection and Immunity* 81 Issue 6, P. 2190–2196 iai.asm.org/content/81/6/2190
- 171 Kron, Michael A. et al. **Nematode Asparaginyl-tRNA Synthetase Resolves Intestinal Inflammation in Mice with T-Cell Transfer Colitis** *Clinical and Vaccine Immunology* 20 Issue 2, P. 276–281 cvi.asm.org/content/20/2/276
- 170 Stahl, Andreas et al. **Highly potent VEGF-A-antagonistic DARPins as anti-angiogenic agents for topical and intravitreal applications** *Angiogenesis* 16 Issue 1, P. 101–111 link.springer.com/article/10.1007/s10456-012-9302-0
- 169 Stiehm, Matthias et al. **Proteolytic activity in cowshed dust extracts induces C5a release in murine bronchoalveolar lavage fluids which may account for its protective properties in allergic airway inflammation** *Thorax* 68 Issue 1, P. 31–38

thorax.bmj.com/content/68/1/31

- 168 Nam, Eon Jeong et al. **A MMP1-cleavable composite peptide derived from β ig-h3 potently inhibits chronic inflammatory arthritis** *Arthritis & Rheumatism*
onlinelibrary.wiley.com/doi/10.1002/art.37932/abstract
- 167 Jarry, Ulrich et al. **Efficiently stimulated adult microglia cross-prime naive CD8+T cells injected in the brain** *European Journal of Immunology* 43 Issue 5, P. 1173–1184
onlinelibrary.wiley.com/doi/10.1002/eji.201243040/abstract

2012

- 166 Devriendt, Bert et al. **ETEC colonisation factors disrupt the antigen presenting capacity of porcine intestinal dendritic cells** *congrès annuel du CFC*
<https://biblio.ugent.be/publication/3133483>
- 165 Rosenwald, Matthias et al. **Serum-Derived Plasminogen Is Activated by Apoptotic Cells and Promotes Their Phagocytic Clearance** *The Journal of Immunology* 189 Issue 12, P. 5722–5728 www.jimmunol.org/content/189/12/5722
- 164 Pal, Durba et al. **Fetuin-A acts as an endogenous ligand of TLR4 to promote lipid-induced insulin resistance** *Nature Medicine* 18, P. 1279–1285
www.nature.com/nm/journal/v18/n8/full/nm.2851.html#main
- 163 Peters, Marcus et al. **A bioassay for determination of lipopolysaccharide in environmental samples** *Innate Immunity* October 18 no. 5, P. 694–699
ini.sagepub.com/content/18/5/694.short
- 162 Miller, Daniel S./Abbott, Nicholas L. **Influence of droplet size, pH and ionic strength on endotoxin-triggered ordering transitions in liquid crystalline droplets** *Soft Matter* 9 Issue 2, P. 374–382
pubs.rsc.org/en/content/articlelanding/2013/sm/c2sm26811f

2012 continued

- 161 Senerovic, L. et al. **Spontaneous formation of IpaB ion channels in host cell membranes reveals how Shigella induces pyroptosis in macrophages** *Cell Death & Disease* 3 Issue 9, P. e384
www.nature.com/cddis/journal/v3/n9/full/cddis2012124a.html
- 160 Dabelic, Sanja et al. **Galectin-3 expression in response to LPS, immunomodulatory drugs and exogenously added galectin-3 in monocyte-like THP-1 cells** *In Vitro Cellular & Developmental Biology - Animal* 48 Issue 8, P. 518–527
link.springer.com/article/10.1007/s11626-012-9540-x
- 159 Novak, Ruder et al. **Galectin-1 and galectin-3 expression profiles in classically and alternatively activated human macrophages** *Biochimica et Biophysica Acta (BBA) - General Subjects* 1820 Issue 9, P. 1383–1390
www.sciencedirect.com/science/article/pii/S0304416511002911

- 158 Kron, Michael A. et al. **Interleukin-8-like activity in a filarial asparaginyl-tRNA synthetase** *Molecular and Biochemical Parasitology* 185 Issue 1, P. 66–69, www.sciencedirect.com/science/article/pii/S0166685112001752
- 157 Leclerc, Claude et al. **Use of the EDA Domain of Fibronectin** www.freepatentsonline.com/EP1913954.html
- 156 Bachem, Annabell et al. **Expression of XCR1 Characterizes the Batf3-Dependent Lineage of Dendritic Cells Capable of Antigen Cross-Presentation** *Frontiers in Immunology* 3 www.ncbi.nlm.nih.gov/pmc/articles/PMC3399095/
- 155 Miernikiewicz, Paulina et al. **Recombinant Expression and Purification of T4 Phage Hoc, Soc, gp23, gp24 Proteins in Native Conformations with Stability Studies** *PLoS ONE* 7 Issue 7, P. e38902 dx.doi.org/10.1371/journal.pone.0038902
- 154 Hoflehner, Elisabeth et al. **Prevention of Birch Pollen-Related Food Allergy by Mucosal Treatment with Multi-Allergen-Chimers in Mice** *PLoS ONE* 7 Issue 6, P. e39409 dx.doi.org/10.1371/journal.pone.0039409
- 153 Poe, Stephanie L.: **STAT1-Regulated Lung MDSC-like Cells Aid Resolution of Inflammation After Bacterial Pneumonia**, Pittsburgh, core.ac.uk/download/pdf/12211408.pdf
- 152 Käsermann, Fabian et al. **Analysis and Functional Consequences of Increased Fab-Sialylation of Intravenous Immunoglobulin (IVIG) after Lectin Fractionation** *PLoS ONE* 7 Issue 6, P. e37243 dx.doi.org/10.1371/journal.pone.0037243
- 151 Johansson, Jan et al. **Spider silk proteins and methods for producing spider silk proteins**, www.google.de/patents?id=C840AgAAEBAI
- 150 Marzi, Andrea et al. **Protective Efficacy of Neutralizing Monoclonal Antibodies in a Nonhuman Primate Model of Ebola Hemorrhagic Fever** *PLoS ONE* 7 Issue 4, P. e36192 dx.doi.org/10.1371/journal.pone.0036192
- 149 Lombardi, Raffaele: **Plant production of a tumour-targeting human IgG. Considerations on expression strategies, glycosylation profile and in planta proteolysis**, dspace.unitus.it/handle/2067/2484
- 148 Buriani, Giampaolo et. al. **Heat-shock protein 70 from plant biofactories of recombinant antigens activate multi-epitope-targeted immune responses** *Plant Biotechnology Journal* 10 Issue 3, P. 363–371. onlinelibrary.wiley.com/doi/10.1111/j.1467-7652.2011.00673.x/abstract

2012 continued

- 147 San Román, Beatriz et al. **The extradomain A of fibronectin (EDA) combined with poly(I:C) enhances the immune response to HIV-1 p24 protein and the protection against recombinant *Listeria monocytogenes*-Gag infection in the mouse model** *Vaccine* 30 Issue 15, P. 2564–2569

www.sciencedirect.com/science/article/pii/S0264410X12001429

- 146 Gitau, Evelyn N. et al. **T-Cell Responses to the DBL α -Tag, a Short Semi-Conserved Region of the *Plasmodium falciparum* Membrane Erythrocyte Protein 1** *PLoS ONE* 7 Issue 1, P. e30095 [dx.doi.org/10.1371/journal.pone.0030095](https://doi.org/10.1371/journal.pone.0030095)
- 145 Lischke, Timo et al. **Comprehensive Analysis of CD4+ T Cells in the Decision between Tolerance and Immunity In Vivo Reveals a Pivotal Role for ICOS** *The Journal of Immunology* 189 Issue 1, P. 234–244
www.jimmunol.org/content/189/1/234
- 144 Serdakowski London, Anne et al. **Endotoxin removal and prevention for pre-clinical biologics production** *Biotechnology Journal* 7 Issue 12, P. 1509–1516
onlinelibrary.wiley.com/doi/10.1002/biot.201200220/abstract

2011

- 143 Wheeler, Derek S. et al. **Biological activity of truncated C-terminus human heat shock protein 72** *Immunology Letter*, Volume 135, Issue 1-2, P.173-179
www.sciencedirect.com/science/article/pii/S0165247810002932
- 142 Pere, Helene et al. **A CCR4 antagonist combined with vaccines induces antigen-specific CD8+ T cells and tumor immunity against self antigens** *blood: 118 (18)*
bloodjournal.hematologylibrary.org/content/118/18/4853.short
- 141 Yabu, Takeshi et al. **Antiviral protection mechanisms mediated by ginbuna crucian carp interferon gamma isoforms 1 and 2 through two distinct interferon gamma-receptors** *Journal of biochemistry* 150 Issue 6, P. 635–648
jb.oxfordjournals.org/content/150/6/635
- 140 Moss, Marcia L et al. **ADAM9 inhibition increases membrane activity of ADAM10 and controls α -secretase processing of amyloid precursor protein** *The Journal of biological chemistry* 286 Issue 47, P. 40443–40451
www.jbc.org/content/286/47/40443
- 139 Devera, T. Scott et al. **Regulation of Anthrax Toxin-Specific Antibody Titers by Natural Killer T Cell-Derived IL-4 and IFN γ** *PLoS ONE* 6 Issue 8, P. e23817
[dx.doi.org/10.1371/journal.pone.0023817](https://doi.org/10.1371/journal.pone.0023817)
- 138 Griener, Thomas P. et al. **Lipopolysaccharide renders Transgenic Mice Expressing Human Serum Amyloid P Component Sensitive to Shiga Toxin 2** *PLoS ONE* 6 Issue 6, P. e21457 [dx.doi.org/10.1371/journal.pone.0021457](https://doi.org/10.1371/journal.pone.0021457)
- 137 Colin, Sylvie/Al-mahmood Salman **Wound healing agent and composition**
www.freepatentsonline.com/EP2371377.html
- 136 Morello, Eric et al. **Pulmonary Bacteriophage Therapy on *Pseudomonas aeruginosa* Cystic Fibrosis Strains: First Steps Towards Treatment and Prevention** *PLoS ONE* 6 Issue 2, P. e16963

[dx.doi.org/10.1371/journal.pone.0016963](https://doi.org/10.1371/journal.pone.0016963)

2011 continued

- 135 Martin-Killias, Patricia et al. **A novel fusion toxin derived from an EpCAM-specific designed ankyrin repeat protein has potent antitumor activity** *Clinical cancer research: an official journal of the American Association for Cancer Research* 17 Issue 1, P. 100–110, clincancerres.aacrjournals.org/content/17/1/100
- 134 Natarajan, Sudha et al. **Reducing LPS content in cockroach allergens increases pulmonary cytokine production without increasing inflammation: a randomized laboratory study** *BMC pulmonary medicine* 11, P. 12, www.biomedcentral.com/1471-2466/11/12.

2010

- 133 Pietrella, Donatella et al. **The Inflammatory Response Induced by Aspartic Proteases of *Candida albicans* Is Independent of Proteolytic Activity** *Infection and Immunity*, iai.asm.org/content/78/11/4754.short
- 132 Liu, C-F et al. **Surfactant protein D inhibits mite-induced alveolar macrophage and dendritic cell activations through TLR signalling and DC-SIGN expression** *Clinical & experimental allergy*, Vol 40, Issue 1, P.111-122, onlinelibrary.wiley.com/doi/10.1111/j.1365-2222.2009.03367.x/abstract
- 131 Poon, Ivan K.H. et al. **Histidine-rich glycoprotein is a novel plasma pattern recognition molecule that recruits IgG to facilitate necrotic cell clearance via FcγRI on phagocytes** *blood:115 (12)*, bloodjournal.hematologylibrary.org/content/115/12/2473?variant=short
- 130 Buetler, Timo M. et al. **Glycoldehyde-modified β-lactoglobulin AGEs are unable to stimulate inflammatory signaling pathways in RAGE-expressing human cell lines** *Molecular Nutrition Food Research*, Volume 55, Issue 2, P. 291-299, onlinelibrary.wiley.com/doi/10.1002/mnfr.201000140/abstract
- 129 Lee, Meng-Huee et al. **The activity of a designer tissue inhibitor of metalloproteinases (TIMP)-1 against native membrane type 1 matrix metalloproteinase (MT1-MMP) in a cell-based environment** *Cancer Letters*, Volume 290, Issue 1, P.114-122, www.sciencedirect.com/science/article/pii/S0304383509005680
- 128 Oloomi, Mana et al. **In vivo Characterization of Fusion Protein Comprising of A1 Subunit of Shiga Toxin and Human GM-CSF: Assessment of Its Immunogenicity and Toxicity** *Iranian Biomedical Journal*, 14(4), P.136-141, www.ncbi.nlm.nih.gov/pmc/articles/PMC3632423/
- 127 Arora, M. et. al. **TLR4/MyD88-induced CD11b+Gr-1intF4/80+ non-migratory myeloid cells suppress Th2 effector function in the lung** *Mucosal Immunology* 3

Issue 6, P. 578–593. www.nature.com/mi/journal/v3/n6/full/mi201041a.html

- 126 Bachem, Annabell et al. **Superior antigen cross-presentation and XCR1 expression define human CD11c+CD141+ cells as homologues of mouse CD8+ dendritic cells** *The Journal of Experimental Medicine* 207 Issue 6, P. 1273–1281, jem.rupress.org/content/207/6/1273
- 125 Buriani, Giampaolo et. al. **Plant heat shock protein 70 as carrier for immunization against a plant-expressed reporter antigen** *Transgenic Research* 20 Issue 2, P. 331–344. link.springer.com/article/10.1007%2Fs11248-010-9418-1
- 124 Gerken, Margarita et al. **Fluorescence correlation spectroscopy reveals topological segregation of the two tumor necrosis factor membrane receptors** *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1798 Issue 6, P. 1081–1089, www.sciencedirect.com/science/article/pii/S0005273610000805
- 2010 continued**
- 123 Bouzari, Saeid et al. **Immune response against adhesins of enteroaggregative Escherichia coli immunized by three different vaccination strategies (DNA/DNA, Protein/Protein, and DNA/Protein) in mice** *Comparative Immunology, Microbiology and Infectious Diseases* 33 Issue 3, P. 215–225, www.sciencedirect.com/science/article/pii/S0147957108000581
- 122 Beauvillain, Céline et al. **The scavenger receptors SRA-1 and SREC-I cooperate with TLR2 in the recognition of the hepatitis C virus non-structural protein 3 by dendritic cells** *Journal of Hepatology* 52 Issue 5, P. 644–651, www.sciencedirect.com/science/article/pii/S0168827810000930
- 121 Sarter, Kerstin: **The Role of Galectins in Clearance and Immunogenicity of Apoptotic and Secondary Necrotic Cells**, www.opus.ub.uni-erlangen.de/opus/volltexte/2010/1792/
- 120 Hedhammar, My et al. **Sterilized Recombinant Spider Silk Fibers of Low Pyrogenicity** *Biomacromolecules* 11 Issue 4, P. 953–959, dx.doi.org/10.1021/bm9014039
- 119 Oladiran, Ayoola/Belosevic, Miodrag: **Trypanosoma carassii calreticulin binds host complement component C1q and inhibits classical complement pathway-mediated lysis** *Developmental & Comparative Immunology* 34 Issue 4, P. 396–405, www.sciencedirect.com/science/article/pii/S0145305X09002407
- 118 Lin, Yu-Min et al. **Outer Membrane Protein I of Pseudomonas aeruginosa Is a Target of Cationic Antimicrobial Peptide/Protein** *Journal of Biological Chemistry* 285 Issue 12, P. 8985–8994, www.jbc.org/content/285/12/8985
- 117 Lombardi, Raffaele et. al. **Optimisation of the purification process of a tumour-targeting antibody produced in N. benthamiana using vacuum-agroinfiltration** *Transgenic Research* 19 Issue 6, P. 1083–1097. link.springer.com/article/10.1007%2Fs11248-010-9382-9

- 116 Branschädel, Marcus et al. **Dual function of cysteine rich domain (CRD) 1 of TNF receptor type 1: Conformational stabilization of CRD2 and control of receptor responsiveness** *Cellular Signalling* 22 Issue 3, P. 404–414, www.sciencedirect.com/science/article/pii/S0898656809003283
- 115 Takei, Masao et al. **Cryptomerione induces Th1 cell polarization via influencing IL-10 production by cholera toxin-primed dendritic cells** *European Journal of Pharmacology* 628 Issue 1–3, P. 233–239, www.sciencedirect.com/science/article/pii/S0014299909010607
- 114 Volz, Thomas et al. **Natural Staphylococcus aureus-derived peptidoglycan fragments activate NOD2 and act as potent costimulators of the innate immune system exclusively in the presence of TLR signals** *The FASEB Journal* 24 Issue 10, P. 4089–4102, www.fasebj.org/content/24/10/4089
- 113 Devera, T. Scott et al. **CD1d-Dependent B-Cell Help by NK-Like T Cells Leads to Enhanced and Sustained Production of Bacillus anthracis Lethal Toxin-Neutralizing Antibodies** *Infection and Immunity* 78 Issue 4, P. 1610–1617, iai.asm.org/content/78/4/1610
- 112 Chatteraj, Sangbrita S. et al. **Pseudomonas aeruginosa Alginate Promotes Burkholderia cenocepacia Persistence in Cystic Fibrosis Transmembrane Conductance Regulator Knockout Mice** *Infection and Immunity* 78 Issue 3, P. 984–993, iai.asm.org/content/78/3/984

2009

- 111 Chen, Edward S. et al. **Serum Amyloid A Regulates Granulomatous Inflammation in Sarcoidosis through Toll-like Receptor-2** *American Thoracic Society*, 181(4), P. 360-373, www.ncbi.nlm.nih.gov/pmc/articles/PMC2822973/
- 110 Blume, Karin E. et al. **Cell Surface Externalization of Annexin A1 as a Failsafe Mechanism Preventing Inflammatory Responses during Secondary Necrosis** *The Journal of Immunology* 183 Issue 12, P. 8138–8147, www.jimmunol.org/content/183/12/8138
- 109 Fredriksson, Camilla et al. **Tissue Response to Subcutaneously Implanted Recombinant Spider Silk: An in Vivo Study** *Materials* 2 Issue 4, P. 1908–1922, www.mdpi.com/1996-1944/2/4/1908
- 108 Larsen, Søren T/Nielsen, Gunnar D. **Desensitization of ovalbumin-sensitized mice by repeated co-administrations of di-(2-ethylhexyl) phthalate and ovalbumin** *BMC Research Notes* 2 Issue 1, P. 225, www.biomedcentral.com/1756-0500/2/225/abstract
- 107 Classen, Birgit: **Arabinogalactan-proteins (AGPs) from medicinal plants, cereals and plant cell cultures**, www.uni-kiel.de/Pharmazie/bio/eng/rf_classen.htm

- 106 Pardo, Julián et al. **Granzyme A is a proinflammatory protease** *Blood* 114 Issue 18, P. 3968–3968, bloodjournal.hematologylibrary.org/content/114/18/3968
- 105 Jeong, Wooseog et al. **Adjuvant effect of bovine heat shock protein 70 on piroplasm surface protein, p33, of Theileria sergenti** *Biologicals* 37 Issue 5, P. 282–287, www.sciencedirect.com/science/article/pii/S1045105609000554
- 104 Oladiran, Ayoola/Belosevic, Miodrag: **Trypanosoma carassii hsp70 increases expression of inflammatory cytokines and chemokines in macrophages of the goldfish (Carassius auratus L.)** *Developmental & Comparative Immunology* 33 Issue 10, P. 1128–1136, www.sciencedirect.com/science/article/pii/S0145305X0900127X
- 103 Capasso, Paola et al. **Monodispersity of recombinant Cre recombinase correlates with its effectiveness in vivo** *BMC Biotechnology* 9 Issue 1, P. 80, www.biomedcentral.com/1472-6750/9/80/abstract/
- 102 Mansilla, Cristina et al. **Immunization against hepatitis C virus with a fusion protein containing the extra domain A from fibronectin and the hepatitis C virus NS3 protein** *Journal of hepatology* 51 Issue 3, P. 520–527, www.journal-of-hepatology.eu/article/S0168-8278%2809%2900439-5/abstract
- 101 Bouzari, Saeid et al. **Study on induction of apoptosis on HeLa and Vero cells by recombinant shiga toxin and its subunits** *Cytotechnology* 60 Issue 1-3, P. 105–113, link.springer.com/article/10.1007/s10616-009-9220-1
- 100 Banerjee, Kaustuv et al. **Enzymatic removal of mannose moieties can increase the immune response to HIV-1 gp120 in vivo** *Virology* 389 Issue 1–2, P. 108–121, www.sciencedirect.com/science/article/pii/S0042682209002360
- 99 Kapoor, Mili et al. **Mutational Separation of Aminoacylation and Cytokine Activities of Human Tyrosyl-tRNA Synthetase** *Chemistry & Biology* 16 Issue 5, P. 531–539, www.sciencedirect.com/science/article/pii/S1074552109000854
- 98 Oma, Keita et al. **Intranasal immunization with a mixture of PspA and a Toll-like receptor agonist induces specific antibodies and enhances bacterial clearance in the airways of mice** *Vaccine* 27 Issue 24, P. 3181–3188, www.sciencedirect.com/science/article/pii/S0264410X09004708
- 2009 continued
- 97 Merabishvili, Maya et al. **Quality-Controlled Small-Scale Production of a Well-Defined Bacteriophage Cocktail for Use in Human Clinical Trials** *PLoS ONE* 4 Issue 3, P. e4944, dx.doi.org/10.1371/journal.pone.0004944
- 96 Deeg, Cornelia A. **A proteomic approach for studying the pathogenesis of spontaneous equine recurrent uveitis (ERU)** *Veterinary Immunology and Immunopathology* 128 Issue 1–3, P. 132–136, www.sciencedirect.com/science/article/pii/S0165242708003978
- 95 Schädlich, Lysann et al. **Refining HPV 16 L1 purification from E. coli: Reducing endotoxin contaminations and their impact on immunogenicity** *Vaccine* 27 Issue

- 10, P. 1511–1522, www.sciencedirect.com/science/article/pii/S0264410X09000267
- 94 Rzepecka, Justyna et al. **Calreticulin from the intestinal nematode *Heligmosomoides polygyrus* is a Th2-skewing protein and interacts with murine scavenger receptor-A** *Molecular Immunology* 46 Issue 6, P. 1109–1119, www.sciencedirect.com/science/article/pii/S0161589008007414
- 93 Grayfer, Leon et al. **Macrophage colony-stimulating factor (CSF-1) induces pro-inflammatory gene expression and enhances antimicrobial responses of goldfish (*Carassius auratus L.*) macrophages** *Fish & Shellfish Immunology* 26 Issue 3, P. 406–413, www.sciencedirect.com/science/article/pii/S1050464808002908
- 92 Yang, Eun Ju et. al. **Chemotactic Effect of the House Dust Mite Allergen, *Dermatophagoides pteronyssinus* on Human Monocytic THP-1 Cells** *대한의생명과학회지* 15 Issue 1, P. 93–96. www.dbpia.co.kr/Journal/ArticleDetail/995064
- 91 Eichstaedt, Stefanie et al. **Effects of *Staphylococcus aureus*-hemolysin A on calcium signalling in immortalized human airway epithelial cells** *Cell Calcium* 45 Issue 2, P. 165–176, www.sciencedirect.com/science/article/pii/S0143416008001383
- 90 Grayfer, Leon/Belosevic, Miodrag: **Molecular characterization, expression and functional analysis of goldfish (*Carassius auratus L.*) interferon gamma** *Developmental & Comparative Immunology* 33 Issue 2, P. 235–246, www.sciencedirect.com/science/article/pii/S0145305X08002012
- 89 Khodoun, Marat et al. **Peanuts can contribute to anaphylactic shock by activating complement** *Journal of Allergy and Clinical Immunology* 123 Issue 2, P. 342–351, www.sciencedirect.com/science/article/pii/S0091674908021787
- 88 Sarter, Kerstin et al. **Detection and chromatographic removal of lipopolysaccharide in preparations of multifunctional galectins** *Biochemical and Biophysical Research Communications* 379 Issue 1, P. 155–159, www.sciencedirect.com/science/article/pii/S0006291X0802408X
- 87 Rolando, Monica et al. **Injection of *Staphylococcus aureus* EDIN by the Bacillus anthracis Protective Antigen Machinery Induces Vascular Permeability** *Infection and Immunity* 77 Issue 9, P. 3596–3601, iai.asm.org/content/77/9/3596
- 86 Below, Sabine et al. **Virulence factors of *Staphylococcus aureus* induce Erk-MAP kinase activation and c-Fos expression in S9 and 16HBE14o- human airway epithelial cells** *American Journal of Physiology - Lung Cellular and Molecular Physiology* 296 Issue 3, P. L470–L479, ajplung.physiology.org/content/296/3/L470
- 85 Smagur, Andrzej et al. **Chimeric protein ABRaA-VEGF121 is cytotoxic towards VEGFR-2-expressing PAE cells and inhibits B16-F10 melanoma growth** *Acta biochimica Polonica* 56 Issue 1, P. 115–124, www.ncbi.nlm.nih.gov/pubmed/19252752

2009 continued

- 84 Grayfer, L/Belosevic, M. **Molecular characterization of tumor necrosis factor receptors 1 and 2 of the goldfish (*Carassius auratus L.*)**. *Molecular Immunology* 46 Issue 11/12, P. 2190–2199, www.sciencedirect.com/science/journal/01615890
- 83 Natarajan, Sudha: **Pulmonary Innate Immune Modulation in the Pathogenesis of Allergic Asthma.**, deepblue.lib.umich.edu/handle/2027.42/62299
- 82 Silvestre, Ricardo et al. **The contribution of Toll-like receptor 2 to the innate recognition of a *Leishmania infantum* silent information regulator 2 protein** *Immunology* 128 Issue 4, P. 484–499, onlinelibrary.wiley.com/doi/10.1111/j.1365-2567.2009.03132.x/abstract
- 81 Röschmann, K. et al. **Timothy grass pollen major allergen Phl p 1 activates respiratory epithelial cells by a non-protease mechanism** *Clinical & Experimental Allergy* 39 Issue 9, P. 1358–1369, onlinelibrary.wiley.com/doi/10.1111/j.1365-2222.2009.03291.x/abstract

2008

- 80 Muhammad, Sajjad et al. **The HMGB1 Receptor RAGE Mediates Ischemic Brain Damage** *The Journal of Neuroscience* 28 Issue 46, P. 12023–12031, www.jneurosci.org/content/28/46/12023
- 79 Camacho, Carlos J. et al. **Structural and Thermodynamic Approach to Peptide Immunogenicity** *PLoS Comput Biol* 4 Issue 11, P. e1000231, dx.doi.org/10.1371/journal.pcbi.1000231
- 78 Metkar, Sunil S. et al. **Human and Mouse Granzyme A Induce a Proinflammatory Cytokine Response** *Immunity* 29 Issue 5, P. 720–733, [www.cell.com/immunity/abstract/S1074-7613\(08\)00458-5](http://www.cell.com/immunity/abstract/S1074-7613(08)00458-5)
- 77 Takei, Masao et al. **Diterpenes drive Th1 polarization depending on IL-12** *International Immunopharmacology* 8 Issue 11, P. 1602–1608, www.sciencedirect.com/science/article/pii/S1567576908002014
- 76 Takei, Masao et al. **Differential Regulation of DC Function by Siphonodiol**, informahealthcare.com/doi/abs/10.1080/08923970801949257
- 75 Takei, Masao et al. **Dendritic cells maturation promoted by M1 and M4, end products of steroidal ginseng saponins metabolized in digestive tracts, drive a potent Th1 polarization** *Biochemical pharmacology* 68 Issue 3, P. 441–452, www.sciencedirect.com/science/article/pii/S0006295204002618
- 74 Schweizer, Andreas et al. **CD4-Specific Designed Ankyrin Repeat Proteins Are Novel Potent HIV Entry Inhibitors with Unique Characteristics** *PLoS Pathog* 4 Issue 7, P. e1000109, dx.doi.org/10.1371/journal.ppat.1000109

- 73 Krippner-Heidenreich, Anja et al. **Single-Chain TNF, a TNF Derivative with Enhanced Stability and Antitumoral Activity** *The Journal of Immunology* 180 Issue 12, P. 8176–8183, www.jimmunol.org/content/180/12/8176
- 72 Takei, Masao et al. **Diterpene, 16-phylocladanol enhances Th1 polarization induced by LPS-primed DC, but not TNF- α -primed DC** *Biochemical and Biophysical Research Communications* 370 Issue 1, P. 6–10, www.sciencedirect.com/science/article/pii/S0006291X08004361
- 71 Lee, Ji-Sook et. al. **House dust mite, Dermatophagoides pteronissinus increases expression of MCP-1, IL-6, and IL-8 in human monocytic THP-1 cells** *Cytokine* 42 Issue 3, P. 365–371. www.sciencedirect.com/science/article/pii/S1043466608000938
- 2008 continued**
- 70 Krishnamoorthy, Nandini et al. **Activation of c-Kit in dendritic cells regulates T helper cell differentiation and allergic asthma** *Nature Medicine* 14 Issue 5, P. 565–573, www.nature.com/nm/journal/v14/n5/abs/nm1766.html
- 69 Takei, Masao et al. **Dendritic Cells Promoted by Ginseng Saponins Drive a Potent Th1 Polarization** *Biomarker Insights* 3, P. 269–286, www.ncbi.nlm.nih.gov/pmc/articles/PMC2688358/
- 68 Rapti, Magdalini et al. **The isolated N-terminal domains of TIMP-1 and TIMP-3 are insufficient for ADAM10 inhibition** *Biochemical Journal* 411 Issue 2, P. 433, peer.ccsd.cnrs.fr/peer-00478897/
- 67 Doubravská, Lenka et al. **Wnt-expressing rat embryonic fibroblasts suppress Apo2L/TRAIL-induced apoptosis of human leukemia cells** *Apoptosis* 13 Issue 4, P. 573–587, link.springer.com/article/10.1007/s10495-008-0191-z
- 66 Schnoeller, Corinna et al. **A Helminth Immunomodulator Reduces Allergic and Inflammatory Responses by Induction of IL-10-Producing Macrophages** *The Journal of Immunology* 180 Issue 6, P. 4265–4272, www.jimmunol.org/content/180/6/4265
- 65 Preville, Xavier/Timmerman, Benedikt: **Composition for Eliciting a Specific Ctl Response, Comprising a Lympho-Ablative Compound and a Molecule That Contains Antigenic Sequences and Targets Professional Antigen Presenting Cells**, patentscope.wipo.int/search/en/WO2008025848
- 64 Scorpio, Angelo et al. **Treatment of Experimental Anthrax with Recombinant Capsule Depolymerase** *Antimicrobial Agents and Chemotherapy* 52 Issue 3, P. 1014–1020, www.ncbi.nlm.nih.gov/pmc/articles/PMC2258529/
- 63 Jain, Sanjay et al. **Reduction of Endotoxin in Polysialic Acids**, www.google.de/patents?id=7SboAQAAEBAJ
- 62 Naidu, A. Satnarayan: **Treatments for contaminant reduction in lactoferrin preparations**, www.google.de/patents?id=8mnAAAAEBAJ

- 61 Verhasselt, Valérie et al. **Breast milk-mediated transfer of an antigen induces tolerance and protection from allergic asthma** *Nature medicine* 14 Issue 2, P. 170–175, www.nature.com/nm/journal/v14/n2/full/nm1718.html
- 60 Katzenback, Barbara A. et al. **Administration of recombinant parasite β -tubulin to goldfish (*Carassius auratus L.*) confers partial protection against challenge infection with *Trypanosoma danilewskyi* Laveran and Mesnil, 1904** *Veterinary Parasitology* 151 Issue 1, P. 36–45, www.sciencedirect.com/science/article/pii/S0304401707005274
- 59 Ashtekar, Amit R. et al. **TLR4-mediated activation of dendritic cells by the heat shock protein DnaK from *Francisella tularensis*** *Journal of Leukocyte Biology* 84 Issue 6, P. 1434–1446, www.jleukbio.org/content/84/6/1434
- 58 Marshall, Fraser A/Pearce, Edward J. **Uncoupling of Induced Protein Processing from Maturation in Dendritic Cells Exposed to a Highly Antigenic Preparation from a Helminth Parasite** *The Journal of Immunology* 181 Issue 11, P. 7562–7570, www.jimmunol.org/content/181/11/7562
- 57 Grumann, Dorothee et al. **Immune Cell Activation by Enterotoxin Gene Cluster (egc)-Encoded and Non-egc Superantigens from *Staphylococcus aureus*** *The Journal of Immunology* 181 Issue 7, P. 5054–5061, www.jimmunol.org/content/181/7/5054

2008 continued

- 56 Tótl, Lisa J. et al. **Activated Protein C Up-Regulates IL-10 and Inhibits Tissue Factor in Blood Monocytes** *The Journal of Immunology* 181 Issue 3, P. 2165–2173, www.jimmunol.org/content/181/3/2165
- 55 Galloway, Elizabeth et al. **Activation of hepatocytes by extracellular heat shock protein 72** *American Journal of Physiology - Cell Physiology* 295 Issue 2, P. C514–C520, ajpcell.physiology.org/content/295/2/C514
- 54 Salát, Jiří et al. **Efficacy of Gamma Interferon and Specific Antibody for Treatment of Microsporidiosis Caused by *Encephalitozoon cuniculi* in SCID Mice** *Antimicrobial Agents and Chemotherapy* 52 Issue 6, P. 2169–2174, aac.asm.org/content/52/6/2169
- 53 Schmelcher, Mathias/Loessner, Martin J. **Bacteriophage: Powerful Tools for the Detection of Bacterial Pathogens** Mohammed Zourob et al. (Hrsgg.): *Principles of Bacterial Detection: Biosensors, Recognition Receptors and Microsystems*, P. 731–754, link.springer.com/chapter/10.1007/978-0-387-75113-9_27
- 52 Marraccini, P. et al. **Bakery flour dust exposure causes non-allergic inflammation and enhances allergic airway inflammation in mice** *Clinical & Experimental Allergy* 38 Issue 9, P. 1526–1535, onlinelibrary.wiley.com/doi/10.1111/j.1365-2222.2008.03038.x/abstract

- 51 Grayfer, Leon et al. **Characterization and functional analysis of goldfish (*Carassius auratus L.*) tumor necrosis factor-alpha** *Developmental & Comparative Immunology* 32 Issue 5, P. 532–543,
www.sciencedirect.com/science/article/pii/S0145305X07001279
- 50 Haddad, George et al. **Molecular and functional characterization of goldfish (*Carassius auratus L.*) transforming growth factor beta** *Developmental & Comparative Immunology* 32 Issue 6, P. 654–663,
www.sciencedirect.com/science/article/pii/S0145305X07001371
- 49 He, F.-R. et al. **Programmed death-1 ligands-transfected dendritic cells loaded with glutamic acid decarboxylase 65 (GAD65) inhibit both the alloresponse and the GAD65-reactive lymphocyte response** *Clinical & Experimental Immunology* 151 Issue 1, P. 86–93, onlinelibrary.wiley.com/doi/10.1111/j.1365-2249.2007.03546.x/abstract

2007

- 48 Yang, Xiang-Lei et al. **Gain-of-Function Mutational Activation of Human tRNA Synthetase Procytokine** *Chemistry & Biology* 14 Issue 12, P. 1323–1333,
www.sciencedirect.com/science/article/pii/S1074552107003717
- 47 Bublin, Merima et al. **Use of a genetic cholera toxin B subunit/allergen fusion molecule as mucosal delivery system with immunosuppressive activity against Th2 immune responses** *Vaccine* 25 Issue 50, P. 8395–8404,
www.sciencedirect.com/science/article/pii/S0264410X07011425
- 46 Laccone, Franco: **Synthetic Mecp2 Sequence for Protein Substitution Therapy**,
patentscope.wipo.int/search/en/WO2007115578
- 45 Beauvillain, Céline et al. **Neutrophils efficiently cross-prime naive T cells in vivo** *Blood* 110 Issue 8, P. 2965–2973,
bloodjournal.hematologylibrary.org/content/110/8/2965

2007 continued

- 44 Moss, Marcia L. et al. **The ADAM10 prodomain is a specific inhibitor of ADAM10 proteolytic activity and inhibits cellular shedding events** *Journal of Biological Chemistry*, www.jbc.org/content/early/2007/09/25/jbc.M703231200
- 43 Katsumata, Yasuhiro et al. **Species-specific immune responses generated by histidyl-tRNA synthetase immunization are associated with muscle and lung inflammation** *Journal of Autoimmunity* 29 Issue 2–3, P. 174–186,
www.sciencedirect.com/science/article/pii/S0896841107000832
- 42 Branschädel, Marcus/Scheurich, Peter: **Analysis of Molecular Components Essential for the Formation of Signaling-competent TNF-TNFR Complexes**,
elib.uni-stuttgart.de/opus/volltexte/2007/3235/pdf/Diss_Marcus_Branschaedel.pdf

- 41 Larsen, Søren Thor et al. **Airway inflammation and adjuvant effect after repeated airborne exposures to di-(2-ethylhexyl)phthalate and ovalbumin in BALB/c mice** *Toxicology* 235 Issue 1–2, P. 119–129, www.sciencedirect.com/science/article/pii/S0300483X07001783
- 40 Jayamuruga Pandian Arunachalam: **Creation and establishment of transgenic mouse models for Mecp2 gene, causing Rett syndrome**, ediss.uni-goettingen.de/bitstream/handle/11858/00-1735-0000-0006-AC56-1/arunachalam.pdf?sequence=1
- 39 Takei, Masao et al. **Diterpenes inhibit IL-12 production by DC and enhance Th2 cells polarization** *Biochemical and biophysical research communications* 355 Issue 3, P. 603–610, www.sciencedirect.com/science/article/pii/S0006291X07002161
- 38 Reese, Gerald et al. **Allergenicity and antigenicity of wild-type and mutant, monomeric, and dimeric carrot major allergen Dau c 1: Destruction of conformation, not oligomerization, is the roadmap to save allergen vaccines** *Journal of Allergy and Clinical Immunology* 119 Issue 4, P. 944–951, www.sciencedirect.com/science/article/pii/S0091674906038024
- 37 Hansen, Jitka Stilund et al. **Adjuvant effects of inhaled mono-2-ethylhexyl phthalate in BALB/c mice** *Toxicology* 232 Issue 1–2, P. 79–88, www.sciencedirect.com/science/article/pii/S0300483X06007554
- 36 Cordero, Damien V. et al. **Characterization of a Plasmodium falciparum Macrophage-Migration Inhibitory Factor Homologue** *Journal of Infectious Diseases* 195 Issue 6, P. 905–912, jid.oxfordjournals.org/content/195/6/905
- 35 Mangino, Giorgio et al. **In Vitro Treatment of Human Monocytes/Macrophages with Myristoylated Recombinant Nef of Human Immunodeficiency Virus Type 1 Leads to the Activation of Mitogen-Activated Protein Kinases, I κ B Kinases, and Interferon Regulatory Factor 3 and to the Release of Beta Interferon** *Journal of Virology* 81 Issue 6, P. 2777–2791, jvi.asm.org/content/81/6/2777
- 34 Fuchs, Hendrik et al. **A cleavable molecular adapter reduces side effects and concomitantly enhances efficacy in tumor treatment by targeted toxins in mice** *Journal of Controlled Release* 117 Issue 3, P. 342–350, www.sciencedirect.com/science/article/pii/S0168365906006742
- 33 Lasarte, Juan J. et al. **The Extra Domain A from Fibronectin Targets Antigens to TLR4-Expressing Cells and Induces Cytotoxic T Cell Responses In Vivo** *The Journal of Immunology* 178 Issue 2, P. 748–756, www.jimmunol.org/content/178/2/748
- 32 Kelchtermans, Hilde et al. **Protective role of IFN- γ in collagen-induced arthritis conferred by inhibition of mycobacteria-induced granulocyte chemotactic protein-2 (GCP-2) production** *Journal of Leukocyte Biology*, www.jleukbio.org/content/early/2007/01/02/jlb.0806486

2007 continued

- 31 Tsan, Min-Fu/Gao, Baochong: **Review: Pathogen-associated molecular pattern contamination as putative endogenous ligands of Toll-like receptors** *Journal of Endotoxin Research* 13 Issue 1, P. 6–14, ini.sagepub.com/content/13/1/6
- 30 Deeg, Cornelia A. et al. **CRALBP is a Highly Prevalent Autoantigen for Human Autoimmune Uveitis** *Clinical and Developmental Immunology* 2007, P. 1–6, www.hindawi.com/journals/cdi/2007/039245/abs/
- 29 Griener, Thomas P. et al. **Differential binding of Shiga toxin 2 to human and murine neutrophils** *Journal of Medical Microbiology* 56 Issue 11, P. 1423–1430, jmm.sgmjournals.org/content/56/11/1423
- 28 Soederholm, Anna et al. **HIV-1 induced generation of C5a attracts immature dendritic cells and promotes infection of autologous T cells** *European Journal of Immunology* 37 Issue 8, P. 2156–2163, onlinelibrary.wiley.com/doi/10.1002/eji.200636820/abstract
- 27 Tay, S. S. et al. **T cell proliferation and cytokine responses to ovalbumin and ovomucoid detected in children with and without egg allergy** *Clinical & Experimental Allergy* 37 Issue 10, P. 1519–1527, onlinelibrary.wiley.com/doi/10.1111/j.1365-2222.2007.02807.x/abstract

2006

- 26 Holtfreter, Silva: **Immunantwort gegen Superantigene bei *Staphylococcus aureus* Carriern**, ub-ed.ub.uni-greifswald.de/opus/volltexte/2007/372/pdf/diss_holtfreter_silva.pdf#page=100
- 25 Mosig, Sandy: **Untersuchung von atherosklerotischen Prozessen in zirkulierenden Monozyten und T-Zellen von Patienten mit Familiärer Hypercholesterinämie**, Jena, www.db-thueringen.de/servlets/DerivateServlet/Derivate-14190/Mosig/Dissertation.pdf
- 24 Nguyen, Ngoc-Quynh-Nhu et al. **Prolactin/growth hormone-derived antiangiogenic peptides highlight a potential role of tilted peptides in angiogenesis** *Proceedings of the National Academy of Sciences* 103 Issue 39, P. 14319–14324, www.pnas.org/content/103/39/14319
- 23 Gusenleitner, S. et al. **Evaluation of EndoTrap® blue for removing endotoxin contamination from Echinacea extracts** *Planta Medica* 72 Issue 11, P. S_059, <https://www.thieme-connect.com/ejournals/abstract/10.1055/s-2006-949792>
- 22 Claudia Immisch: **Synthese und Analytik von TmHU, dem Histon-ähnlichen Protein aus *Thermotoga maritima*, und dessen Einsatz als proteino genes Gentransfersystem**, Wittenberg, sundoc.bibliothek.uni-halle.de/diss-online/06/06H117/prom.pdf

- 21 Birkenmeier, Gerd et al. **Polymyxin B conjugated Alpha-2 Macroglobulin as an adjunctive therapy to sepsis: Modes of action and impact on lethality** *Journal of Pharmacology and Experimental Therapeutics*, jpet.aspetjournals.org/content/early/2006/05/16/jpet.106.104265
- 20 Takei, Masao/Nakagawa, Hideyuki: **A sea urchin lectin, SUL-1, from the Toxopneustid sea urchin induces DC maturation from human monocyte and drives Th1 polarization *in vitro*** *Toxicology and applied pharmacology* 213 Issue 1, P. 27–36, www.sciencedirect.com/science/article/pii/S0041008X05005326
- 19 Takei, Masao et al. **T-cadinol and calamenene induce dendritic cells from human monocytes and drive Th1 polarization** *European journal of pharmacology* 537 Issue 1-3, P. 190–199, www.sciencedirect.com/science/article/pii/S0014299906002135

2006 continued

- 18 Deeg, Cornelia A. et al. **Identification and Functional Validation of Novel Autoantigens in Equine Uveitis** *Molecular & Cellular Proteomics* 5 Issue 8, P. 1462–1470, www.mcponline.org/content/5/8/1462
- 17 Ndungu, Francis M. et al. **CD4 T Cells from Malaria-Nonexposed Individuals Respond to the CD36-Binding Domain of Plasmodium falciparum Erythrocyte Membrane Protein-1 via an MHC Class II-TCR-Independent Pathway** *The Journal of Immunology* 176 Issue 9, P. 5504–5512, www.jimmunol.org/content/176/9/5504
- 16 MacDonald, S. L./Kilpatrick, D. C. **Human Serum Amyloid P Component Binds to Peripheral Blood Monocytes** *Scandinavian Journal of Immunology* 64 Issue 1, P. 48–52, onlinelibrary.wiley.com/doi/10.1111/j.1365-3083.2006.01774.x/abstract
- 15 Plahovinsak, Jennifer Lee: **Kinetics and passive protection efficacy induces by purified avian human Immunoglobulin G in rabbits against a *Bacillus anthracis* aerosol challenge**, rave.ohiolink.edu/etdc/view?acc_num=wright1166813637
- 14 Silvestre, Ricardo et al. ***Leishmania* cytosolic silent information regulatory protein 2 deacetylase induces murine B-cell differentiation and in vivo production of specific antibodies** *Immunology* 119 Issue 4, P. 529–540, onlinelibrary.wiley.com/doi/10.1111/j.1365-2567.2006.02468.x/abstract

2005

- 13 Takei, Masao et al. **Epicubenol and Ferruginol induce DC from human monocytes and differentiate IL-10-producing regulatory T cells *in vitro*** *Biochemical and Biophysical Research Communications* 337 Issue 2, P. 730–738, www.sciencedirect.com/science/article/pii/S0006291X05021376
- 12 Kahn, Barbara B. et al. **RBP4 in insulin sensitivity/resistance, diabetes, and obesity**, www.freepatentsonline.com/y2005/0208535.html
- 11 Yang, Qin et al. **Serum retinol binding protein 4 contributes to insulin resistance**

- in obesity and type 2 diabetes** *Nature* 436 Issue 7049, P. 356–362,
www.nature.com/nature/journal/v436/n7049/full/nature03711.html
- 10 Raith, Albert: **Charakterisierung des potenziellen Autoantigens cRALBP**, Freising,
edoc.ub.uni-muenchen.de/4717/1/Raith_Albert_Johann.pdf
- 9 Davis, Bradley/Zou, Ming-Hui: **CD40 Ligand-Dependent Tyrosine Nitration of Prostacyclin Synthase In Vivo** *Circulation* 112 Issue 14, P. 2184–2192,
circ.ahajournals.org/content/112/14/2184
- 8 Haußmann, Ute: **Vergleich des Allergens Phl p 5b (C-Terminus) und seiner hypoallergen Mutante im murinen Allergiemodell**, Bochum, www.ruhr-uni-bochum.de/homeexpneu/lehre/master/ute.html.de
- 7 Gonzalez-Gronow, Mario et al. **Angiostatin directly inhibits human prostate tumor cell invasion by blocking plasminogen binding to its cellular receptor, CD26** *Experimental Cell Research* 303 Issue 1, P. 22–31,
www.sciencedirect.com/science/article/pii/S0014482704005464
- 6 Luyer, Misha D. et al. **Strain-Specific Effects of Probiotics on Gut Barrier Integrity following Hemorrhagic Shock** *Infection and Immunity* 73 Issue 6, P. 3686–3692,
iai.asm.org/content/73/6/3686

2005 continued

- 5 Woelk, Eva: **Erkennung und Aufnahme inflammatorisch aktiver synthetischer Peptidoglykanstrukturen**, Leibniz-Zentrum für Medizin und Biowissenschaften,
www.students.informatik.uni-luebeck.de/zhb/ediss149.pdf

2004

- 4 Kutter, Elizabeth/Sulakvelidze, Alexander: **Bacteriophages: Biology and Applications**, CRC Press, P. 227, www.crcpress.com/product/isbn/9780849313363
- 3 Takei, Masao et al. **Dendritic cells maturation promoted by M1 and M4, end products of steroidal ginseng saponins metabolized in digestive tracts, drive a potent Th1 polarization**, *Biochemical Pharmacology*, Volume 68, Issue 3, P. 441-452,
www.sciencedirect.com/science/article/pii/S0006295204002618
- 2 Osterloh, Anke et al. **Lipopolysaccharide-free Heat Shock Protein 60 Activates T Cells** *Journal of Biological Chemistry* 279 Issue 46, P. 47906–47911,
www.jbc.org/content/279/46/47906
- 1 Little, S.F et al. **Defining a serological correlate of protection in rabbits for a recombinant anthrax vaccine** *Vaccine* 22 Issue 3–4, P. 422–430,
www.sciencedirect.com/science/article/pii/S0264410X03005814

