

BioVendor new products

July 27, 2016

Dear customer, we would like to introduce our new products and hope you will find them interesting. Below is a list of events, in which we plan to participate in 2016:

46th Annual Meeting German Society of Immunology (DGfI) (27 \ 09 \ 2016 - 30 \ 09 \ 2016 - Hamburg)

XXXIII. Congress of Czech and Slovakian Allergologists and Clinical Immunologists (12 \ 10 \ 2016 - 15 \ 10 \ 2016 - Pilsen)

6. Jahrestagung der ÖGLMKC (08 \ 11 \ 2016 - 11 \ 11 \ 2016 - Salzburg)

20th Joint-Meeting "Signal Transduction: Receptors, Mediators and Genes" (09 \ 11 \ 2016 - 11 \ 11 \ 2016 - Weimar)

MEDICA 2016 (14 \ 11 \ 2016 - 17 \ 11 \ 2016 - Dusseldorf)

8th Nachwuchswissenschaftler-Meeting - Biochemische Pharmakologie und Toxikologie (GBM) (02 \ 12 \ 2016 - 03 \ 12 \ 2016 - Gunzburg)

IMMUNOASSAYS

» FEATURED PRODUCT: HUMAN OSTEOPONTIN ELISA

Osteopontin is an important player in many physiological and pathological processes such as **biomineralization**, tissue remodeling, **inflammation**, autoimmune response, **diabetes**, tumorigenesis and many others.

- High sensitivity (87 pg/ml)
- Excellent analytical characteristics
- Validated for human plasma (EDTA, citrate, heparin) samples, serum samples, urine, cerebrospinal fluid (CSF) and breast milk

Osteopontin (OPN), also named secreted phosphoprotein-1 (SPP1), bone sialoprotein-1 (BSP-1) or early T-lymphocyte activation (ETA-1), is a glycoposphoprotein highly expressed in bone (osteoclasts and osteoblasts), other mineralized tissues and biosynthesized by various cell types. [1] Secreted OPN is found in many biological fluids including blood, milk, urine, cerebrospinal fluid, synovial fluid and seminal fluid. [2]

One major physiological function of Osteopontin (OPN) is the control of **biomineralization** which is required for the bone remodeling process, stimulates adhesion, migration and bone resorption by osteoclasts. [3]

Osteopontin (OPN) plays an important role in both physiological and pathophysiological processes connected with T-cell regulation/activation and thus it is involved in modulation of the **immune response** on multiple levels. [4] Recent reviews indicate OPN's role in acute **inflammation** and leukocyte recruitment, in chronic inflammatory diseases such as multiple sclerosis, Crohn's disease and other autoimmune disorders [5], in systemic lupus erythematosus (SLE) or rheumatoid arthritis (RA). [4]

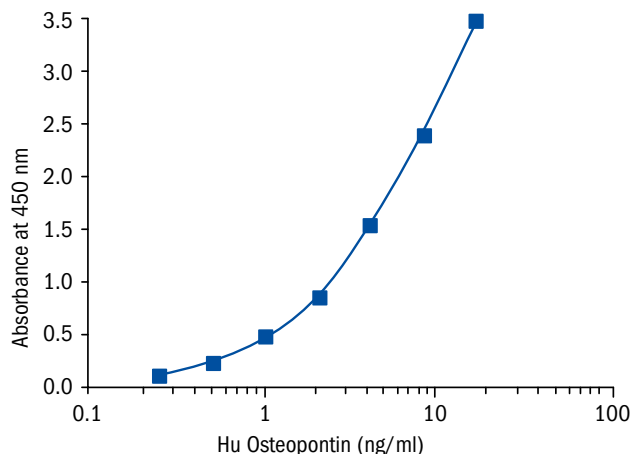
The current studies have shown that OPN levels were substantially elevated in obese patients compared to controls and were further increased in obese **diabetic** or insulin resistant patients. [6,7]

Osteopontin (OPN) is a **tumor-associated antigen** that is highly overexpressed in multiple human cancers including lung cancer, breast cancer, melanoma and mesothelioma. [8] More recent studies have shown that OPN is also elevated in the serum of breast cancer patients even at early stages of the disease. [9]

[Human Osteopontin ELISA](#)

RELATED PRODUCTS

[RD172446100](#) Osteopontin Human HEK293



NEW IMMUNOASSAYS

CAT. NO.		NAME		IVD/RUO	ASSAY FORMAT
RD191410200R	Human	6-Phosphogluconate Dehydrogenase	ELISA	RUO	Sandwich ELISA, Biotin-labelled antibody
RD20023	Mouse	Adiponectin	PENTASET	RUO	ELISA development kit
RD191481200R	Human	Azurocidin/HBP	ELISA	RUO	Sandwich ELISA, Biotin-labelled antibody
RD291531200R	Mouse	Betatrophin	ELISA	RUO	Sandwich ELISA, Biotin-labelled antibody
RD191436200R	Human	Kallistatin	ELISA	RUO	Sandwich ELISA, Biotin-labelled antibody
RD191446200R	Human	Osteopontin	ELISA	RUO	Sandwich ELISA, Biotin-labelled antibody
RAG021R	Human	RBP4, High Sensitivity	ELISA	RUO	Sandwich ELISA
RGP007R	Mouse	Syndecan-1 (CD138)	ELISA	RUO	Sandwich ELISA, Biotin-labelled antibody

RECOMBINANT PROTEINS

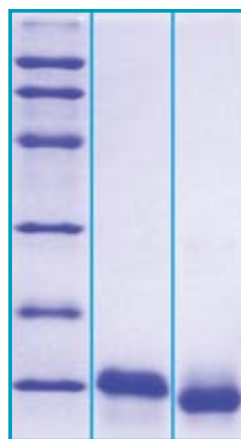
» FEATURED PRODUCT: HUMAN MUELLERIAN-INHIBITING FACTOR *E. COLI*

Mullerian inhibiting factor (MIF), also known as Anti-Mullerian Hormone is a homodimeric glycoprotein with MIF gene located on chromosome 19. [10] The hormone binds to its receptor Anti-Mullerian Hormone Receptor, a single transmembrane protein, with serine-threonine kinase activity. [11]

These receptors are expressed on target organs such as Mullerian ducts, Sertoli and Leydig cells of testis, and granulosa cells of the ovary. MIF plays a role in male sexual differentiation. In males, MIF expression begins at 9 weeks gestation in the fetal testes and continues at high levels until puberty, when expression levels fall dramatically. In females, MIF is produced only postnatally in granulosa cells from prepuberty through menopause at levels similar to adult males, after which expression ceases. [12,13]

So, initially discovered as a male hormone, MIF has become a valuable tool for assessment of ovarian function in childhood, adolescence, and adult females. Serum level of MIF is an autonomous marker reflecting "ovarian reserve". [14] Recent studies also suggest that MIF may serve as a prognostic factor for the chance of a pregnancy and live birth. [15]

Muellerian-Inhibiting Factor Human *E. coli*



14% SDS-PAGE separation of Human AMH (*E.coli*):

1. M.W. marker – 14, 21, 31, 45, 66, 97 kDa
2. Reduced and boiled sample, 2.5 µg/lane
3. Non-reduced and non-boiled sample, 2.5 µg/lane

RELATED PRODUCTS

[RD172115025-HEK](#) Muellerian-Inhibiting Factor Human HEK293

NEW RECOMBINANT PROTEINS

CAT. NO.		NAME	SIZE	SOURCE
RD172480100	Human	Endothelial Cell-Specific Molecule 1	0.1 mg	HEK293
RD172495100	Human	GDNF Family Receptor Alpha-1	0.1 mg	HEK293
RD172377100	Human	Glucagon Receptor	0.1 mg	<i>E. coli</i>
RD172515100	Human	Histone H3.3	0.1 mg	<i>E. coli</i>
RD172422100	Human	Insulin-Like Growth Factor-Binding Protein	0.1 mg	<i>E. coli</i>
RD172115100	Human	Muellerian-Inhibiting Factor	0.1 mg	<i>E. coli</i>
RD172115025-HEK	Human	Muellerian-Inhibiting Factor	0.025 mg	HEK293
RD172485100	Human	Natriuretic Peptides A	0.1 mg	<i>E. coli</i>
RD172486100	Human	Natriuretic Peptides B	0.1 mg	<i>E. coli</i>
RD172043100-B	Human	Neuroglobin	0.1 mg	<i>E. coli</i>
RD172463100	Human	Osteoclast-Associated Immunoglobulin-Like Receptor	0.1 mg	<i>E. coli</i>
RD172446100	Human	Osteopontin	0.1 mg	HEK293
RD172519100	Human	Protein Delta Homolog 1	0.1 mg	HEK293
RD772492100		<i>Trichomonas vaginalis</i> MIF protein	0.1 mg	<i>E. coli</i>

AFFINITY MASS SPECTROMETRY

Mass spectrometry (MS) is an analytical technique that ionizes chemical species and sorts the ions based on their mass to charge ratio. A mass spectrum, a plot of the ion signal as a function of the mass-to-charge ratio, is used to determine the elemental or isotopic signature of a sample, the masses of particles and of molecules, and to elucidate the chemical structures of molecules, such as peptides and other chemical compounds.

Recent developments in biology have enabled the integration of mass spectrometry (MS) and immunoaffinity techniques to detect a protein antigen of interest in a few microliters of human plasma or serum using an antibody functionalized MALDI surface.

The Functionalized MALDI plate is used to selectively enrich the antigen of interest from plasma and/or serum. Bound samples of antigen-antibody complex are reduced and covered by MALDI matrix and the MS spectra are acquired.

As this method of immunoaffinity enrichment combined with MALDI MS is rapid, does not require external purification steps and can be automated it has a great potential to be used in determination of many clinically relevant antigens.

[Affinity Mass Spectrometry](#)

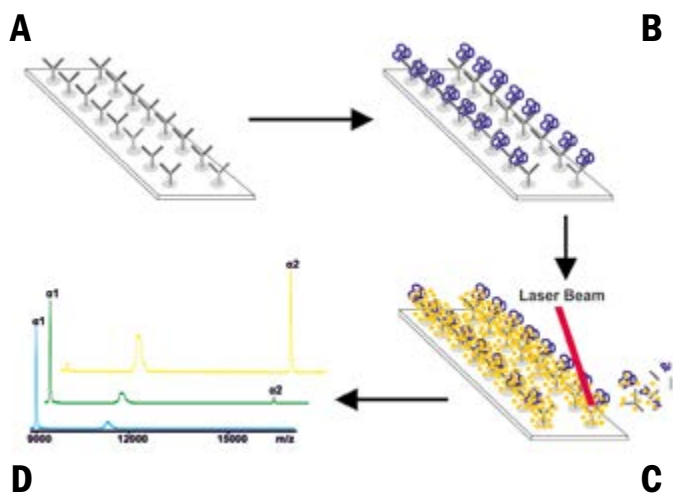
» FEATURED PRODUCT: HUMAN HAPTOGLOBIN PHENOTYPE MALDI MS

The RMS01 **Human Haptoglobin Phenotype MALDI MS** is an immunoaffinity assay for qualitative determination of human haptoglobin phenotype using Matrix-assisted laser desorption/ionization mass spectrometry.

The risk of developing cardiovascular disease (CVD) in patients with **diabetes** has been shown to be connected with **Hp2-2 phenotype**. Vitamin E supplementation was found to significantly decrease the risk of CVD in these Hp2-2 diabetic patients. [16]

Recently it was shown that patients with Hp2-2 have a higher risk for the development of **cerebral vasospasm** and poor functional outcomes after subarachnoid hemorrhage. [17] It was further observed that haptoglobin phenotype can predict the risk of vascular complications in patients with diabetes mellitus (DM).





Picture: Haptoglobin phenotype determination by using planar functionalized MALDI surfaces.

A) Functionalized MALDI plate prepared by ambient ion landing. B) Functionalized MALDI plate with bounded antigen on the anti-haptoglobin antibody, showing the plate after the incubation with crude serum and washing procedure that removes sample matrix and other proteins. C) Bounded samples of antigen-antibody complex are reduced and covered by MALDI matrix. D) Acquired spectra showing ion signals of α subunits present in the sample [18].

NEW PRODUCTS

CAT. NO.		NAME	IVD/RUO	ASSAY FORMAT
RMS01	Human	Haptoglobin Phenotype MALDI MS	RUO	48 spots

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