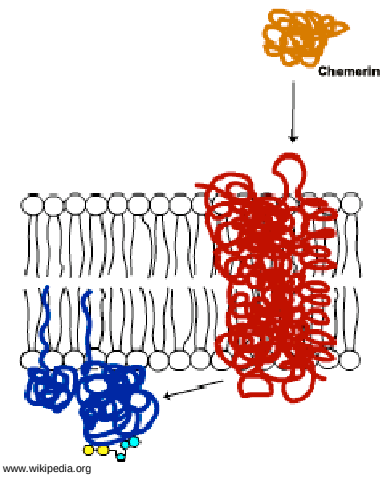
Human Chemerin
ELISA E102

Chemerin, also known as tazarotene-induced gene 2 (TIG2) or retinoic acid receptor responder 2 (RARRES2), is synthesized as precursor protein of 163 amino acids including a 20 amino acid signal peptide. Prochemerin expression has been demonstrated for liver, lung, pituitary, lymph node, stomach and adipose tissue. Different G-protein coupled receptors activated by Chemerin were found in spleen, lymph node, small intestine, lung tissue as well as in macrophages and immature dendritic cells.



Prochemerin is converted into its biologically active form by serine or cystein proteases, resulting in pro- or anti-inflammatory actions of the active protein, respectively. The active protein is involved in innate and adaptive immune responses and acts as a strong chemoattractant for immature dendritic cells and macrophages. If cleaved by cystein-proteases the resulting peptides have anti-inflammatory effects.

Recently, the relevance of Chemerin in adipogenesis and adipocyte metabolism has been discovered. It was shown in mice that Chemerin as well as Chemerin receptor (ChemR23) genes are expressed in adipocytes of visceral and subcutaneous adipose tissue. The expression and secretion increases enduring adipocyte differentiation.

Age 20 – 65 years	Reference Values [ng/mL]	
	Female n=20	Male n=20
Mean	108	103
SD	17.5	17.2

It is proposed that **Chemerin influences adipocyte differentiation but also the intracellular signaling of mature adipocytes**. These studies reveal that Chemerin is more expressed by adipose tissue of obese patients and is able to impair insulin sensitivity of muscle cells and insulin mediated lipolysis and lipogenesis in adipocytes.

Assay Characteristics
Mediagnost Chemerin ELISA E102

- ✓ human Chemerin separate standards: 25-600 pg/mL
- ✓ Analytical sensitivity of 5 pg/mL
- ✓ High Precision: Inter-Assay Variance of 5.1%
- ✓ 2 Control Sera for GLP conformity
- ✓ Fast: Incubation Time of 2.5 hours

Linearity human Chemerin ELISA E102 [ng/mL]			
Dilution	Sample 1	Sample 2	Sample 3
1:125	74.06		
1:250	70.18	118.84	145.68
1:500	64.03	116.23	142.32
1:1000	61.19	113.53	136.91
1:2000	58.03	103.6	132.67

The Mediagnost ELISA for human Chemerin is a so-called sandwich assay, for measurement of total human Chemerin (Chemerin & Prochemerin) in **Serum/Plasma** samples.

Specimen
Serum and plasma samples can be used in this assay. No influence of EDTA (5.4 mmol/L), NaCitrat (10.6 mmol/L) or Heparin (30 IE/mL) on the measurement of Chemerin have been detected by recovery experiments.

Stability of the Samples
Storage at 4°C up to 3 days
Storage at 25°C up to 3 days
Not more than 3 freeze/thaw cycles!

Matrix effects: Recovery of recombinant Chemerin in						
Dilution [1:x]	2	5	10	100	500	1000
Saliva	35 %	52 %	70 %	-	-	-
Urine	92 %	92 %	91 %	-	-	-
Breast milk	90 %	88 %	86 %	-	-	-
Cell culture Media	91 %	100 %	95 %	104 %	-	-
Cerebro-spinal fluid	>max.	>max.	>max.	96 %	92 %	94 %
Amniotic fluid	>max.	>max.	>max.	93 %	89 %	88 %

- = not determined

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Mediagnost human Chemerin ELISA E102

Reconstitution / Dilution of Reagents		
Standards A-E	Reconstitution in **Dilution Buffer VP**	**1 ml each**
Control Serum KS1 & KS2	Reconstitution in **Dilution Buffer VP**	**250 µl each**
Washing Buffer WP	dilute in **A. dest.** (e.g. add the complete contents of the flask 50 ml into a graduated flask and fill with A.dest. to 1000 ml)	**1:20**
Sample Dilution + Control Sera KS1 & KS2: 1:505 in Dilution Buffer VP, **mix directly and use within max. 60 min.** Use **100 µl per determination**		
Before assay procedure bring all **reagents** to **room temperature**		

Pipette	Reagents	Well Positions
100 µl	Dilution Buffer **VP** as Blank	A1 and A2
100 µl	Standard **A** (**25 pg/ml**)	B1 and B2
100 µl	Standard **B** (**100 pg/ml**)	C1 and C2
100 µl	Standard **C** (**250 pg/ml**)	D1 and D2
100 µl	Standard **D** (**400 pg/ml**)	E1 and E2
100 µl	Standard **E** (**600 pg/ml**)	F1 and F2
100 µl	Control Serum **KS1**	G1 and G2
100 µl	Control Serum **KS2**	H1 and G2
100 µl	**Sample**	Pipette sample in the rest of the wells according to requirements
Cover the wells with the sealing tape		

Incubation: 1 h at RT, 350 rpm

5x 300 µl	Aspirate the contents of the wells and wash **5x** with **300 µl** each **WP**/**well**	each well
100 µl	Antibody-POD-Conjugate **AK**	each well

Incubation: 1 h at RT, 350 rpm

5x 300 µl	Aspirate the contents of the wells and wash **5x** with **300 µl** each **WP**/**well**	each well
100 µl	Substrate Solution **S**	each well

Incubation: 30 min **in** the dark at RT

100 µl	Stop Solution **SL**	each well
Measure the absorbance within 30 min at **450 nm** (≥590 nm Reference)		

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