



FIANOSTICS
Light Up Your Results

Super Sensitive and Easy

FluoBolt™ -PERIOSTIN

High Sensitivity, Single Step Immunoassay for PERIOSTIN in Human Serum for Diseases Related to Extra Cellular Matrix Disorders

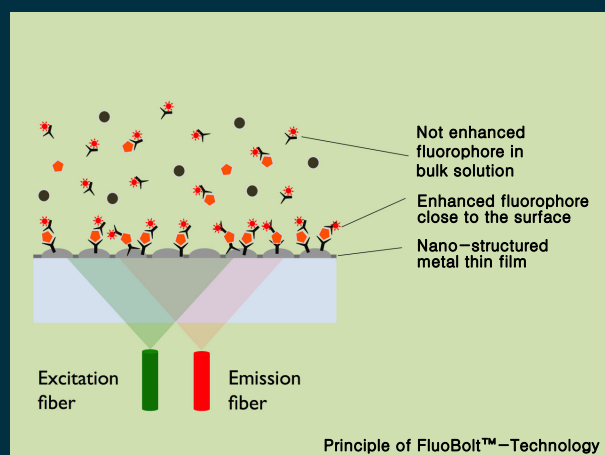
Signal Enhanced Fluorescence Immunoassay
on Plasmonic Substrates



- High Sensitivity
- Single Step Assay
- No Wash
- No Enzyme Substrate
- Stable Signal over Time

www.fianostics.at

About FluoBolt™-Technology:



For more information about FluoBolt™-Technology, please visit: www.fianostics.at/en/technology

FluoBolt™-Technology is based on a physical effect called “Metal Enhanced Fluorescence” which is generated by metal nanostructures on the bottom of our micro plates. Those structures create a very strong local electromagnetic field (“localized surface plasmon”), that greatly enhances the fluorescence of surface bound fluorophores.

The unique features of FluoBolt™-Technology enable us to develop direct fluorescence immunoassays with the following benefits:

- High Sensitivity
- Single Step Procedure
- No Washing Steps
- No Enzyme Substrate required
- Long Term Stable Signal

About FluoBolt™-PERIOSTIN (Cat. Nr. 1703):

PERIOSTIN, also known as osteoblast specific factor 2 (OSF-2), is a cell adhesion protein belonging to the family of fasciclin domain containing proteins. It is expressed during ontogenesis as well as in a variety of adult tissues such as bone, tendons, heart valves, skin aorta, stomach, lower gastrointestinal tract, breast tissue etc. In bone, PERIOSTIN directly interacts with collagen type I, fibronectin, Notch1, tenascin-C and BMP-1, resulting in enhanced proteolytic activation of lysyl oxidase for collagen cross-linking, thus stabilising the bone matrix.

Data on the clinical use of serum PERIOSTIN measurements are controversial, which may be the result of lacking sensitivity in some assay systems. Therefore we decided to use our FluoBolt™-Technology to provide a high sensitivity PERIOSTIN assay for clinical research, that may improve data consistency. Determination of serum PERIOSTIN has been used for studying the following topics:

- Asthma / COPD / Allergies
- Tumor Progression & Metastasis
- Osteoarthritis
- Bone Fracture Healing

Literature:

- Serum periostin levels serve as a biomarker for both eosinophilic airway inflammation and fixed airflow limitation in well-controlled asthmatics. Takahashi K. et al., J Asthma 2018; 12: 1-8.
- Serum periostin during omalizumab therapy in asthma: A tool for patient selection and treatment evaluation. Caminati M. et al., Ann Allergy Asthma Immunol. 2017; 119(5): 460-462.
- Periostin: A Matricellular Protein With Multiple Functions in Cancer Development and Progression. González-González L. Alonso J., Front Oncol. 2018; 12: 8-225.
- Epithelial periostin expression is correlated with poor survival in patients with invasive breast carcinoma. Kim G.E., PLoS One. 2017; 12(11).
- Influence of Periostin on Synovocytes in Knee Osteoarthritis. Tajika Y. et al., In Vivo. 2017; 31(1): 69-77.
- Serum periostin levels following small bone fractures, long bone fractures and joint replacements: an observational study. Varughese R. et al., Allergy Asthma Clin Immunol. 2018; 14: 30.

Assay Characteristics

Method	Metal Enhanced Direct Sandwich Fluorescence Immunoassay in 96-well plate format
Sample type	Serum
Standard range	0 to 180 pmol/l (6 standards and 2 controls in a serum based matrix)
Conversion factor	1 ng/ml = 11 pmol/l (MW: 93.3 kD)
Sample volume	20 µl (undiluted sample) / well
Incubation steps/time/temperature	Single step assay, over night at 37° C
Sensitivity	LOD (0pmol/l + 3SD): 2 pmol/l; LLOQ: 11 pmol/l
Specificity	This assay detects human PERIOSTIN. Interference of BMP-1 or TGF-β1 with the assay's signal up to a 10 fold molar excess was monitored. Human PERIOSTIN shares 98-99% aa sequence identity with higher apes, 95% with bovine/equine and 91% with mouse PERIOSTIN. Crossreactivity of this assay with other species than human has not been tested.