FIANOSTICS
Light Up Your Results

Super Sensitive and Easy

FluoBolt™ -WNT3A

High Sensitivity, Single Step Immunoassay for
WNT3A in Human Serum and Plasama

Signal Enhanced Fluorescence Immunoassay
on Plasmonic Substrates

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

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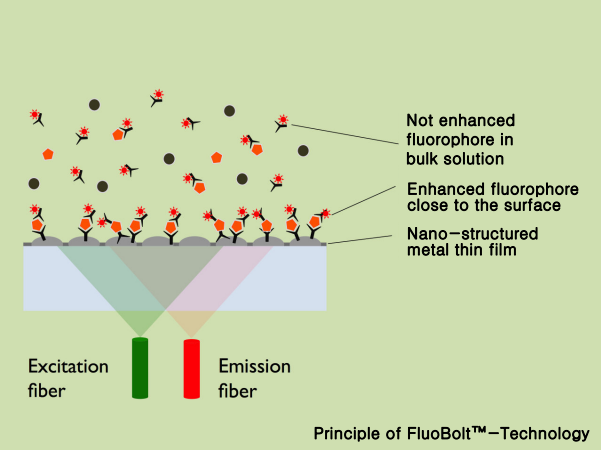
FluoBolt™-WNT3A

About FluoBolt™-Technology:



Principle of 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™-WNT3A (Cat. Nr. 1705):

WNT3A is a secreted glycoprotein and belongs to the WNT family. Members of this family can interact with cell membrane receptors, thus playing a role in autocrine regulations and paracrine signaling. WNT3A is expressed in placenta at moderate levels, as well as in lung, spleen and prostate at low levels. WNT3A plays important roles in cell growth and differentiation, embryonic development, neural development, immune regulation, bone formation and carcinogenesis.
Although there are some assay systems for measuring WNT3A available, current existing clinical data is noncoherent. Therefore, we decided to use our FluoBolt™-Technology to provide a high sensitivity WNT3A assay for clinical research, that may improve data consistency.
Determination of serum WNT3A has been used for studying the following topics:

- Cancer
- Ankylosing Spondylitis
- Multiple Myeloma
- Osteoporosis
- Spinal Cord Injuries

Literature:

- Wnt3a: Functions and Implications in Cancer. Sha H et al., Chin J Cancer. 2015;34(12):554-62.
- Expression of Wnt3a in hepatocellular carcinoma and its effects on cell cycle and metastasis. Caijie L et al., Int J Oncol. 2017;51(4):1135-1145.
- Elevated levels of Wnt3a and low levels of Dickkopf-1 in serum are associated with syndesmophyte formation in ankylosing spondylitis. Klingberg E et al., Ann Rheum Dis. 2012;71:A64.
- Wnt3a signaling within bone inhibits multiple myeloma bone disease and tumor growth. Qiang YW et al., Blood. 2008;112(2):374-382.
- Wnt3a involved in the mechanical loading on improvement of bone remodeling and angiogenesis in a postmenopausal osteoporosis mouse model. Xinle L et al., FASEB J.2019;33(8):8913-8924.
- Therapeutic Potential of Wnt-3a in Neurological Recovery After Spinal Cord Injury. Gao K et al., Eur Neurol. 2019;81(3-4):197-204.

Assay Characteristics

Method	Metal Enhanced Direct Sandwich Fluorescence Immunoassay in 96-well plate format
Sample type	Serum and Plasma
Standard range	0 to 2800 pmol/l (6 standards and 2 controls in a serum based matrix)
Conversion factor	1 ng/ml = 25 pmol/l (MW: 39.4 kD)
Sample volume	20 µl (undiluted sample) / well
Incubation steps/time/temperature	Single step assay, over night at RT
Sensitivity	LOD (0pmol/l+3SD): 51 pmol/l; LLOQ: 175 pmol/l
Specificity	This assay detects human WNT3A. Human WNT3A shares around 100-97% aa sequence with primates, 96-95% bears, 96% whales and 96% mice. Cross-reactivity of this assay with other species than human has not been tested