Setting the **standard** for **clinical** research.

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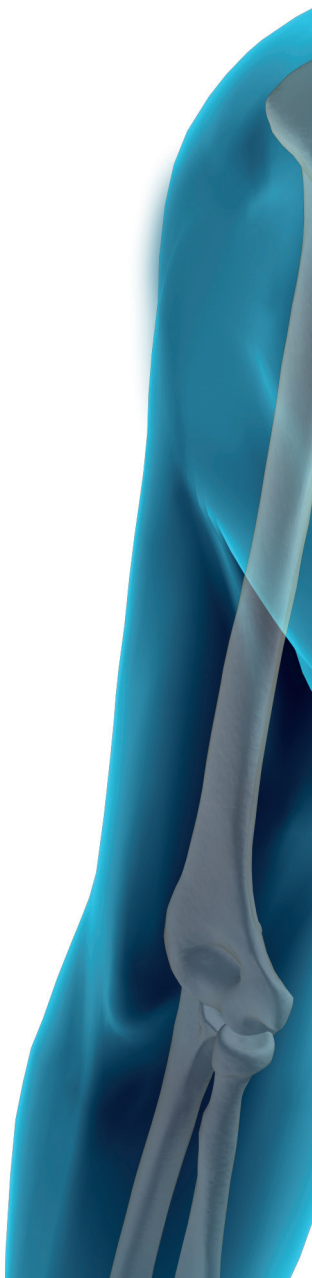

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THE BONE MARKER ELISA PRODUCTS

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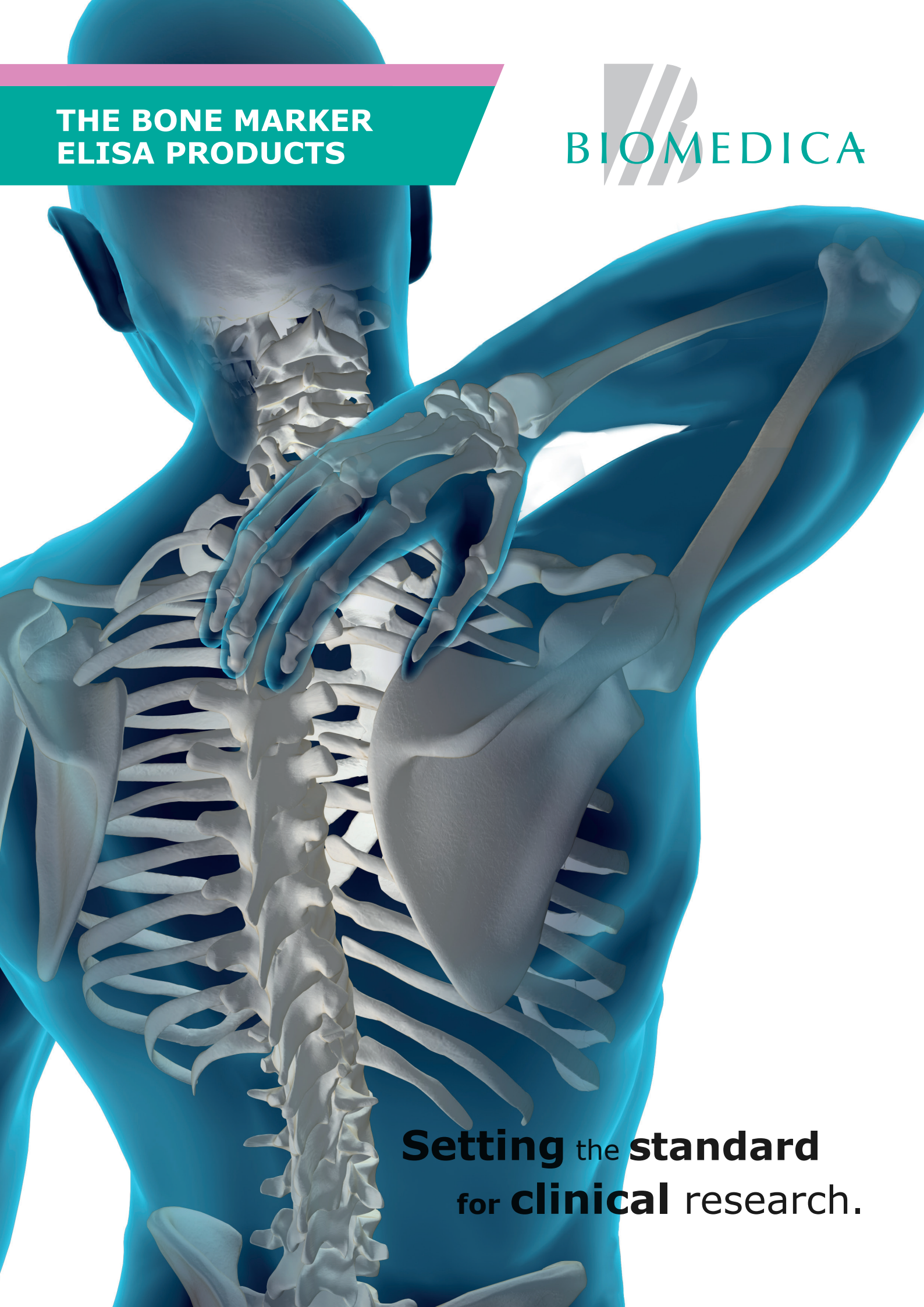


Setting the **standard** for **clinical** research.

SCLEROSTIN · DKK–1 · OPG ·

ELISAs for the quantitative determination of Sclerostin, Dickkopf-1, Osteoprotegerin, free soluble RANKL and FGF23 (C-terminal) in human samples.

MARKERS OF BONE TURNOVER – REGULATION MOLECULES

sRANKL, soluble receptor activator of nuclear factor (NF)-kB ligand, is the main stimulatory factor for the formation of mature osteoclasts and is essential for their survival. RANKL activates its specific receptor RANK that is located on osteoclasts and dendritic cells.

Osteoprotegerin (OPG) acts as a soluble secreted receptor for RANKL and inhibits osteoclast development. OPG is the counter-part of sRANKL.

Sclerostin serum levels are significantly elevated in postmenopausal women, in patients with immobilization-induced bone loss, and in patients with multiple myeloma. Circulating sclerostin serum levels are reduced by intermittent PTH therapy and estrogen. The development of neutralizing antibodies to DKK-1 and sclerostin are found to be promising therapeutic agents in diseases with elevated bone resorption.

Dickkopf-1 (DKK-1) and sclerostin are potent inhibitors of Wnt signalling and play an important role in osteoblast maturation. Increased circulating DKK-1 levels have been reported in clinical situations characterized by markedly depressed bone formation as in multiple myeloma, or by increased focal osteolysis from multiple myeloma, and bone metastases from breast, prostate or lung cancer, and in rheumatoid arthritis.

FGF23 (fibroblast growth factor 23) is a 32 kDa protein with 251 amino acids that is proteolytically processed between arginine[179] and serine[180] to generate N-terminal and C-terminal fragments.
FGF23 is mainly secreted by osteocytes and controls phosphate and 1,25(OH)2 vitamin D homeostasis.

All Biomedica ELISAs are fully validated and contain human based calibrators and controls.

ASSAY CHARACTERISTICS

FREE SOLUBLE RANKL HIGH SENSITIVITY ELISA (BI-20462) CE

Method	Sandwich ELISA, HRP/TMB
Sample type	serum, Heparin plasma
Sample size	150 µl / test, 12x8 tests
Standard range	0 – 2 pmol/l
Detection limit	0.01 pmol/l
Incubation time	2h / overnight / 1h / 30min

OSTEOPROTEGERIN ELISA (DAY TEST) (BI-20403) CE

Method	Sandwich ELISA, HRP/TMB
Sample type	plasma, serum
Sample size	20 µl / test, 12x8 tests
Standard range	0 – 20 pmol/l
Detection limit	0.07 pmol/l
Incubation time	3h / 1h / 30min

SCLEROSTIN ELISA (HIGH SENSITIVITY) (BI-20492)

Method	Sandwich ELISA, HRP/TMB
Sample type	plasma, serum
Sample size	20 µl / test, 12x8 tests
Standard range	0 – 240 pmol/l
Detection limit	2.6 pmol/l
Incubation time	overnight / 1h / 30min

DICKKOPF-1 ELISA (DAY TEST, no sample predilution!) (BI-20413) CE

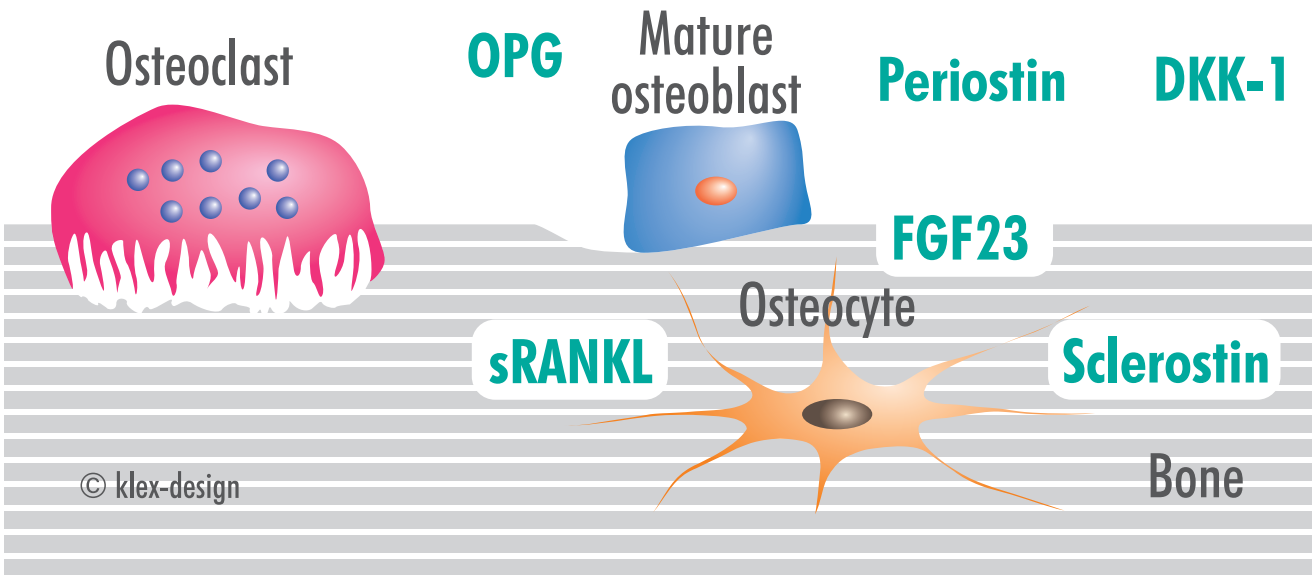
Method	Sandwich ELISA, HRP/TMB
Sample type	serum, cell culture supernatants
Sample size	20 µl / test, 12x8 tests
Standard range	0 – 160 pmol/l
Detection limit	1.7 pmol/l
Incubation time	2h / 1h / 30min

FGF23 (C-terminal) ELISA (BI-20702) CE

Method	Sandwich ELISA, HRP/TMB
Sample type	serum, plasma
Sample size	50 µl / test, 12x8 tests
Standard range	0 – 20 pmol/l
Detection limit	0.08 pmol/l
Incubation time	overnight / 1h / 30min

free sRANKL · FGF23 (C-terminal)

Figure1: Bone Cells and Secreted Biomarkers



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BONE-201610