Urine CartiLaps® (CTX-II) EIA

The Urine CartiLaps® (CTX-II) EIA detects degradation products of C-terminal telopeptides of type II collagen. It is intended for in vitro diagnostic use as an indication of degradation of cartilage and may be used as an aid for the quantitative assessment of disease activity (structural damage of articular cartilage) in patients with rheumatoid arthritis (RA) and osteoarthritis (OA), the prognosis of disease activity in patients with RA and OA, and for the early assessment of long-term effect of therapy in patients with RA.

Disruption of the structural integrity of cartilage is the major histological finding in rheumatoid arthritis and osteoarthritis. Type II collagen is the major organic constituent of cartilage and fragments of type II collagen (CTX-II) are released into circulation and subsequently secreted into urine following degradation of cartilage. In urine, the CTX-II fragments can be quantified by Urine CartiLaps® (CTX-II) EIA.

The Urine CartiLaps® (CTX-II) EIA has been reported to be useful in the prediction of osteoarthritis progression[1-6] and in other clinical and pre-clinical investigations[7-17].

Urine CartiLaps® (CTX-II) EIA is based on the competitive binding of a monoclonal antibody to urinary fragments of type II collagen or to biotinylated, synthetic peptides bound to the surface of microtitre plates coated with streptavidin.

Features and benefits

- Measures cartilage degradation in OA and RA
- Urine CTX-II is the most validated marker in these disease states
- Allows for dynamic monitoring of disease progression

Specifications

Format	Manual competitive monoclonal antibody enzyme immunoassay
Standards	Ready to use – 1 each of 6 concentration levels, 1 x 3.0 mL calibrator 0 and 1 x 0.4 mL of calibrators 1 – 5
Controls	Ready to use – 2 x 0.4 mL
Minimum detectable	0.20 µg/L

Reference range

Population	n	Mean CTX-II (ng/mmol)	95% Confidence Interval (ng/mmol)
Males	247	278	87–895
All women	459	299	79–1137
Postmenopausal	256	363	112–1172

Sample Volume	40µl
Sample Type	Urine - second morning void urine specimens is recommended
Reagent stability	Store the Urine CartiLaps® (CTX-II) EIA kit upon receipt at 2–8°C Under these conditions the kit is stable up to the expiry date stated on the box

Precision

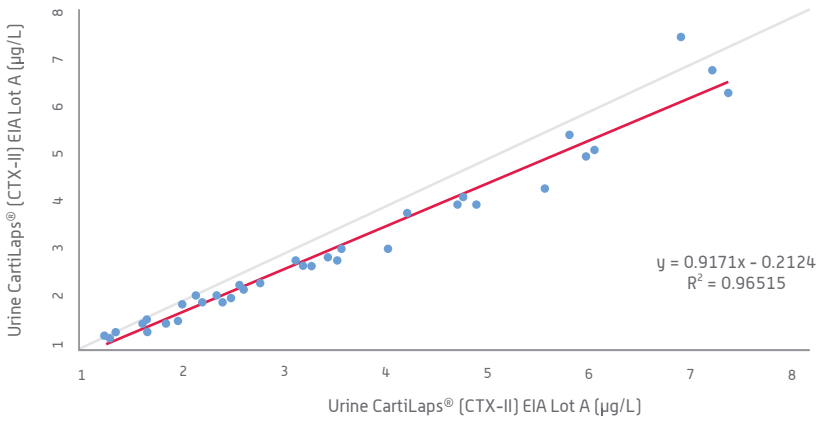
Sample ID	Mean (µg/L)	Inter Assay CV	Intra Assay CV
1	0.52	7.8%	12.2%
2	1.84	4.6%	10.8%
3	5.50	5.2%	6.9%

Lot to Lot Comparison

Urine CartiLaps® (CTX-II) EIA

46 samples (0.25 – 7.14 ng/mL) were assessed in 2 different lots of the Urine CartiLaps® (CTX-II) EIA

Lot to lot comparison (n = 46)



Ordering information

Product Name	Size	Code
Urine CartiLaps® (CTX-II) EIA	96 Wells	AC-10F1

Visit www.idsplc.com for an extended range of IDS assays

Complementary Products

Product Name	Size	Code
Serum Pre-Clinical CartiLaps® (CTX-II) ELISA	96 Wells	AC-08F1
Urine Pre-Clinical CartiLaps® (CTX-II) EIA	96 Wells	AC-09F1
Human COMP® ELISA	96 Wells	AN-14-1006-71

References

1. Garnero P. et al., Association of 10 molecular markers of bone, cartilage and synovium with disease activity and joint damage in hip osteoarthritis patients: the ECHODIAH cohort. ACR 2003.
2. Garnero P. et al., Association of baseline levels of markers of bone and cartilage degradation with long-term progression of joint damage in patients with early rheumatoid arthritis: the COBRA Study. Arthritis & Rheum (2002); 46:2847-2856.
3. Garnero P. et al., Uncoupling of type II collagen synthesis and degradation predicts progression of joint damage in patients with knee osteoarthritis. Arthritis & Rheum (2002); 46:2613-2624.
4. Garnero P. et al., Association of baseline levels of urinary glucosyl-galactosyl pyridinoline and type II collagen C-telopeptide with progression of joint destruction in patients with early rheumatoid arthritis. Arthritis & Rheum (2002); 46: 21-30.
5. Garnero P. et al., The bisphosphonate Zoledronate decreases type II collagen breakdown in patients with Paget's disease of bone. Bone (2001); 28: 461-464.
6. Garnero P. et al., Cross sectional evaluation of biochemical markers of bone, cartilage, and synovial tissue metabolism in patients with knee osteoarthritis: relations with disease activity and joint damage. Ann Rheum Dis (2001); 60: 619-26.
7. Ceunick F De. et al., Urinary collagen type II C-telopeptide fragments are sensitive markers of matrix metallo-proteinase dependent cartilage degradation in rat adjuvant induced arthritis. J Rheumatol (2003); 30: 1561-1564.
8. Christgau S. et al., Suppression of Elevated Cartilage Turnover in Postmenopausal Women and in Ovariectomized Rats by Estrogen and a Selective Estrogen-Receptor Modulator (SERM). Menopause (2004); 11: 508-518.
9. Christgau S. et al., Cartilage Degradation In Glucosamine Sulphate Treated Knee Osteoarthritis Patients With Elevated Levels Of Urinary Collagen Type II C-Telopeptide Fragments. Clin Exp Rheumatol. (2004) 22(1):36-42.
10. Christgau S. et al., Collagen type II degradation products in urine as an index of cartilage degradation. Bone (2001); 29: 209-215.
11. Forsblad d'Elia H. et al., Hormone replacement therapy, calcium and vitamin D3 versus calcium and vitamin D3 alone decreases markers of cartilage and bone metabolism in rheumatoid arthritis: a randomized controlled trial. Arthritis Res Ther (2004); 6: R457-68.
12. Høegh-Andersen P. et al., Ovariectomized Rats as a Model of Postmenopausal Osteoarthritis. Validation and Application. Annals of Rheum Dis. (2004); 6(2): R169-80.
13. Jung M. et al., Elevated urinary concentration of collagen type II C-telopeptide fragments in patients with osteoarthritis. Pathobiology. (2004); 71(2): 70-6
14. Lehmann HJ. et al., The effects of bisphosphonates on CartiLaps: A new marker for cartilage degradation. Ann Rheum Dis (2002); 61:530-533.
15. Mazières B. et al., Molecular markers of cartilage breakdown and synovitis are strong independent predictors of structural progression of hip osteoarthritis (OA). the ECHODIAH cohort. ACR 2003.
16. Mouritzen U. et al., CartiLaps: A novel marker of Cartilage Degradation. The influence of age, gender, menopause, hormone replacement therapy and bone mass index. Annals Rheum Dis. (2003); 62: 332-336.
17. Roy-Beaudry M. et al., Entothelin-1 promotes osteoarthritic cartilage degradation via mmp-1 and mmp-13 induction. Arthritis & Rheum (2003); 48:2855-2864.

Distributed by Abacus dx

1800 ABACUS (AUS) 0800 222 170 (NZ) | info@abacusdx.com | www.abacusdx.com