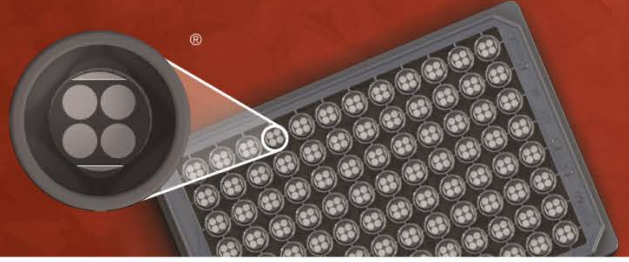
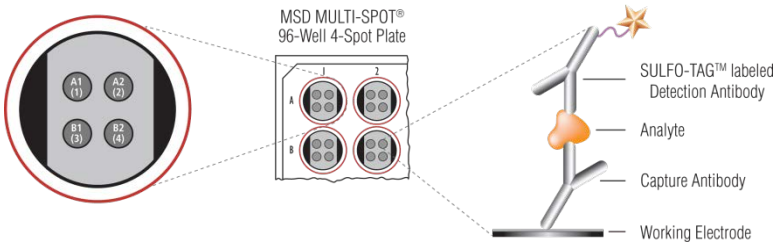
MSD® Human Tenascin C Kit



For quantitative determination in human serum and plasma

Alzheimer's Disease
BioProcess
Cardiac
Cell Signaling
Clinical Immunology
Cytokines
Growth Factors
Hypoxia
Immunogenicity
Inflammation
Metabolic
Oncology
Toxicology
Vascular

1. Tenascin C
2. *BSA blocked*
3. *BSA blocked*
4. *BSA blocked*



The tenascins are a group of extracellular matrix glycoproteins involved in vertebrate development, tissue injury, and repair. Tenascin C is the founding and best characterized member of this group of proteins originally found in gliomas, muscle tissue, and the nervous system. The variety of locations in which it was found gave rise to its alternate names: myotendinous antigen, glial/mesenchymal ECM protein, cytoactin, J1 220/200, neuronectin, and hexabrachion.[1] It was also later found in the osteotendinous junction and superficial layers of cartilage.[2,3] Tenascin C is a homohexamer (1500 kDa) formed through disulfide linkages in its N-terminal domain.[4] It interacts with a wide variety of other extracellular matrix molecules and receptors including integrins alpha-8/beta-1, alpha-9/beta-1, alpha-V/beta-3, and alpha-V/beta-6. Functionally, it regulates cell adhesion, migration, proliferation, and cellular signaling.[5]

Tenascin C is highly expressed during development for embryogenesis and organogenesis, then reduces to undetectable levels in adults; however, its expression in adults increases during would healing, and neoplastic events.[6,7] A number of pathologies are also associated with an upregulation of tenascin C expression including cardiac injury, and various tumors (glioblastoma, breast, colon, and oral cancer). In a subset of tumors, higher levels of tenascin C correlate with greater metastatic incidence and poorer prognosis.[8] Complicating the analysis of tenascin C in these diseases is the fact that it occurs in a wide variety of isoforms in a disease-specific manner.[9] While the shortest isoform is present in adult cartilage, up to 27 different splicoforms are temporally and spatially regulated in the developing mouse. Due to the large differences in isoform specific expression during disease onset and progression, the measurement of tenascin C levels is of interest as a potential biomarker. The assay is available on 96-well, 4-spot plates. Representative data from the assay is presented below. Visit www.mesoscale.com for a complete listing of our products.

Catalog Numbers

Human Tenascin C Kit	
Kit Size	**Catalog #**
1 plate	K151OJD-1
5 plates	K151OJD-2
25 plates	K151OJD-4

Ordering Information

MSD Customer Service
Phone: 1-301-947-2085
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Company Address

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A division of
Meso Scale Diagnostics, LLC.
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Rockville, MD 20850 USA

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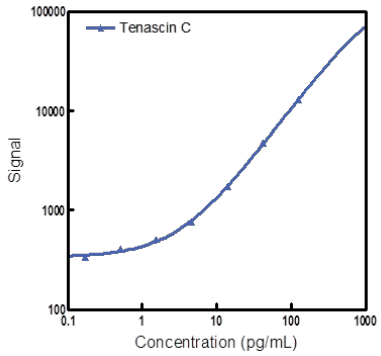
Assay Sensitivity

The following standard curves illustrate the dynamic range of the Human Tenascin C assay.



	Tenascin C
LLOD Range (pg/mL)	0.442–0.477

The lower limit of detection (LLOD) is a calculated concentration based on a signal 2.5 standard deviations above the background (zero calibrator blank). The LLOD shown above was calculated based on 2 runs.

MSD Advantage

- **Multiplexing:** Multiple analytes can be measured in one well using typical sample volumes of 25 µL or less without compromising speed or performance
- **Large dynamic range**: Linear range of up to five logs enables the measurement of native levels of biomarkers in normal and diseased samples without multiple dilutions
- **Minimal background:** The stimulation mechanism (electricity) is decoupled from the response (light signal), minimizing matrix interference
- **Simple protocols:** Only labels bound near the electrode surface are excited, enabling assays with fewer washes
- **Flexibility:** Labels are stable, non-radioactive, and conveniently conjugated to biological molecules
- **High sensitivity and precision:** Multiple rounds of label excitation and emission enhance light levels and improve sensitivity

For a complete list of products, please visit our website at www.mesoscale.com.

For Research Use Only. Not for use in diagnostic procedures.

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References

1. Chiquet-Ehrismann R, Chiquet M. Tenascins: regulation and putative functions during pathological stress. J Pathol. 2003 Jul;200(4):488-99.
2. Mackie EJ, et al. Tenascin is associated with chondrogenic and osteogenic differentiation in vivo and promotes chondrogenesis in vitro. J Cell Biol. 1987 Dec;105(6 Pt 1):2569-79.
3. Mackie EJ, Tucker RP. Tenascin in bone morphogenesis: expression by osteoblasts and cell type-specific expression of splice variants. J Cell Sci. 1992 Nov;103 (Pt 3):765-71.
4. Midwood KS, et al. Advances in tenascin-C biology. Cell Mol Life Sci. 2011 Oct;68(19):3175-99..
5. Chiquet-Ehrismann R, Chiquet M. Tenascins: regulation and putative functions during pathological stress. J Pathol. 2003 Jul;200(4):488-99.
6. Ballard VL, et al. Vascular tenascin-C regulates cardiac endothelial phenotype and neovascularization. FASEB J. 2006 Apr;20(6):717-9.
7. Jones FS, Jones PL. The tenascin family of ECM glycoproteins: structure, function, and regulation during embryonic development and tissue remodeling. Dev Dyn. 2000 Jun;218(2):235-59.
8. Brellier F, Chiquet-Ehrismann R. How do tenascins influence the birth and life of a malignant cell? J Cell Mol Med. 2012 Jan;16(1):32-40.
9. Joester A, Faissner A. Evidence for combinatorial variability of tenascin-C isoforms and developmental regulation in the mouse central nervous system. J Biol Chem. 1999 Jun 11;274(24):17144-51.