Technical data sheet 0401

Tiss®-Link

Tiss®-Link is a nonwoven nanofibre membrane made by electrospinning. It has a **preactivated surface for direct covalent immobilisation of biomolecules**.

Our revolutionary technology has allowed the development of a nonwoven nanofiber membrane that immobilises **more than 5 times the amount of biomolecule** which is immobilised with other conventional materials which have twice the mass, under mild conditions of temperature and pH (RT and physiological pH) and in a short period of time.

This patented technology provides a **highly bioactive material** (290-330 µmol functional groups per gram) with extremely **low background** and **high long-term stability** (*no need for special storage conditions*). Tiss®-Link is especially recommended to act as support for all the applications that require a covalent immobilisation of biomolecules including RIA (radioimmuno-assay, immunoassay (ELISA kits, Lateral Flow Test Strips, etc...) and DNA flow.

Characteristics

Fibre diameter: 300 ± 50 nm

Density: ≈ 0.6 mg/cm^2

Porous diameter: 1-3 μm

Number of functional groups: **290-330 μmol/g**

Absence of undesired interactions with a remarkably decreasing of the background after blocking.

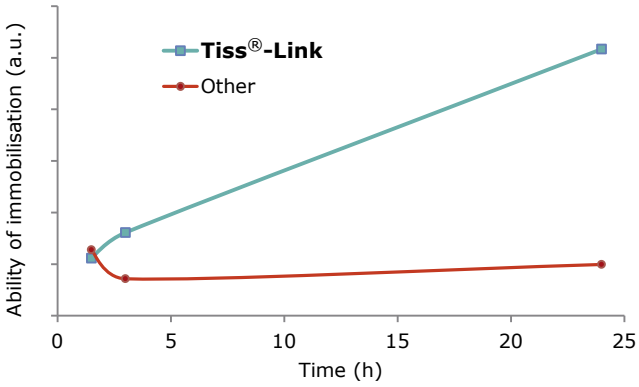
Very high specific surface.

Highly hydrophilic, but insoluble in aqueous media as well as in apolar solvents (oil, toluene…).

High robustness and stability in a wide range of pH (at least between pH 5 and 10 up to 24 hours).

Excellent mechanical properties: high mechanical strength, high consistency, high flexibility and temperature resistance (up to 100 º C).

Readily processable on industrial scale at low cost.



Comparison of the ability of covalently immobilization of a model biomolecule between Tiss®-Link and other commercial material (porous membrane) which is widely used for covalent immobilization of proteins.

Storage and Stability

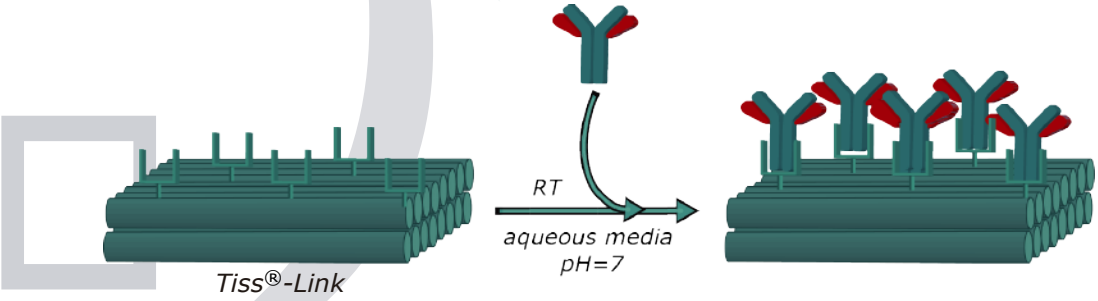
Tiss®-Link is completely stable to both time and temperature. **No need**, therefore, **for special storage conditions**.

Ordering information

Reference	Description	Size
04-01	Tiss®-Link	16x11 cm

To order: sales@nanomyp.com

www.nanomyp.com



This product is for research use only is not intended for use in humans or for in vitro diagnostic use.

Coupling recommendations

Tiss®-Link have been designed to the covalent attachment of thiol-, amine- and/or imidazole-containing biomolecules, resulting in a highly bioactive material. In order to ensure an optimal attachment, NanoMyP® suggests the following experimental considerations:

- **Buffer composition:** To covalently attach proteins through the amino group, we recommend the use of phosphate buffer 50-100 mM pH = 8. Anyway, the binding can be carried out in a pH range between 7 and 11, and any buffer without groups: -SH, $-NH_2$, or -NH- can be used.

- **Anchoring conditions:** Biomolecules can be incubated at any temperature between 0 to 40ºC. Nevertheless and as it is well known, the immobilisation rate depends on the binding-kinetics (strongly influenced by temperature) so to ensure the maximum concentration of immobilised biomolecule, NanoMyP® suggests an incubation time of 24h and at 37ºC. Tiss®-Link is resistant in a temperature range from 0 to 100 ºC.

Blocking recommendations

Mercaptoethanol and ethanolamine acts as a highly effective blockers. Blocking Tiss®-Link, after immobilization, ensures the absence of undesired interactions with a remarkably decreasing of the background. In order to ensure an optimal blocking, NanoMyP® suggests the following conditions:

- Blocking Temperature: 37 °C
- Blocking medium: 1M mercaptoethanol or ethanolamine, 100 mM phosphate buffer, pH = 8
- Blocking Time: 45-60 min