

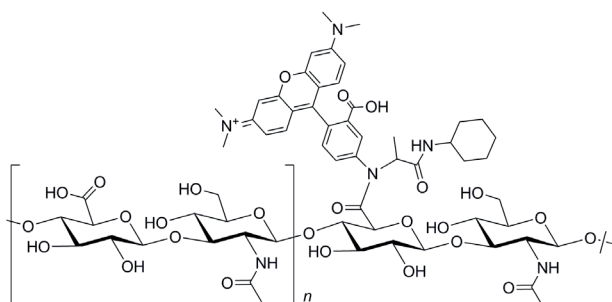
(THA-Se)

Chemical names: Tetramethyl-rhodamine
Hyaluronic acid Hyaluronan,
6' bis(tetramethylamino) -
3-oxospiro(isobenzofuran-
1(3H),9'-9H] xanthen]-5
(or 6)- yl).

Tetramethyl-rhodamine B
hyaluronan

CAS number: not available

Structure:



Properties:

Hyaluronic acid, a polysaccharide composed of alternating $\beta(1-3)$ glucuronide and $\beta(1-4)$ glucosaminide units -derived from *Streptococcus equi*, is labelled with amino-tetramethylrhodamine giving a red product that is soluble in water and electrolytes. The DS lies between 0.001 and 0.008. The Mw determined with a GPC system, calibrated with dextran standards, gave a value of 6.0×10^6 .

Spectral data:

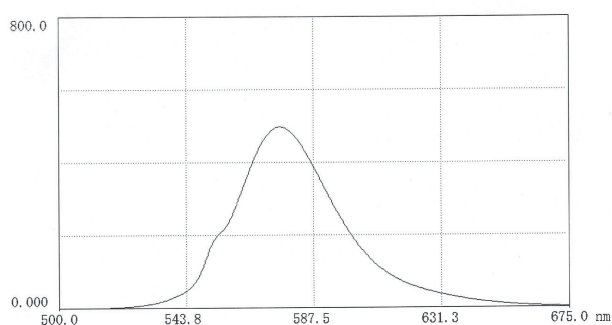


Fig. 1. Fluorescence scan of TR-HA in 0.025M borate pH 9.0(12mg in 50 ml buffer) Excitation 552nm; Emission 576nm.

Applications

Tetramethyl-rhodamine hyaluronic acid (TR-HA) has similar applications to those described for fluorescein hyaluronic acid (see earlier section) but has certain advantages. As mentioned earlier, the fluorescence of tetramethylrhodamine is less dependent on pH than FITC-labels. Also the longer emission wavelength avoids interference from background images in experimental environments. Invasive growth into brain tissue employing TR-HA and 2-photon imaging has been described (1).

References

1. A. Pusch, A. Boeckenhoff, T. Glaser et al., CD44 and hyaluronan promote invasive growth of B35 neuroblastoma cells into the brain, *Biochim Biophys Acta*, 1803(2010), 261-274.