Supplementary Information

Aggrecanase-selective tissue inhibitor of metalloproteinase-3 (TIMP3) protects articular cartilage in a surgical mouse model of osteoarthritis

Hiroyuki Nakamura¹,²*, Phoung Vo², Ioannis Kanakis³, Ke Liu³, and George Bou-Gharios³

¹Department of Oral and Maxillofacial Surgery, Kanazawa University Graduate School of Medical Science Kanazawa, Ishikawa, Japan. ²Matrix Biology Department, the Kennedy Institute of Rheumatology Division, Imperial College London, Hammersmith, London, UK. ³Institute of Ageing and Chronic Disease, University of Liverpool, William Henry Duncan Building, Liverpool, UK

*e-mail: hnak@me.com

Supplementary Figure S1: Representative images of Safranin-O stained sections of the medial condyle and tibial plateau of non-transgenic mice (WT), TIMP3-Tg heterozygous, and [-1A] TIMP3-Tg heterozygous in skeletally mature mice at 18 weeks of age to show similarity of the articular cartilage proteoglycan composition. Bars, 200 μm.

Supplementary Figure S2: (a) Comparison of expression in transgenic mice by determining β-galactosidase activity in [-1A]TIMP3 line 7 (n=7) and [-1A]TIMP3 line (n=5, line 7). Values represent the mean ± SEM. (b) Representative images of Safranin-O stained sections from [-1A]TIMP3 lines 7 and 13 showing that cartilage was protected in mice expressing high levels of the [-1A]TIMP3 transgene (line 7) but not in low expressing transgenic line 13. (c) Histological maximum and summed scores of joints, 8 weeks after the induction of DMM or sham operated control
