

SUPPLEMENTAL FIGURE LEGENDS

Supplemental Figure 1. Quantitative comparison of mitogen-activated protein kinase (MAPK) phosphorylation (phospho-MAPK) and expression (total MAPK) in the synovial tissue of patients with early arthritis. Tissue sections from patients diagnosed with rheumatoid arthritis (RA) according to 1987 ACR criteria, spondyloarthritis (SpA), and undifferentiated arthritis (UA) after two years follow-up were stained with antibodies against phospho- and total p38, extracellular-signal regulated kinase (ERK), and c-Jun N-terminal kinase (JNK). Stainings were developed with biotin tyramide enhancement, horseradish peroxidase and aminoethylcarbazole, followed by counterstaining with Mayer's hematoxylin, and evaluated by digital imaging analysis. Values indicated are the integrated optical density (IOD)/mm² of stainings with the indicated antibodies. Data is presented as box plots, where the boxes represent the 25th to 75th percentiles, the line within the boxes mark the median value, and lines outside the boxes denote the 10th and 90th percentiles. Lines connecting data sets indicate statistically significant differences between groups. * $P < 0.05$. ** $P < 0.01$. *** $P < 0.005$.

Supplemental Figure 2. Representative photomicrographs of phospho- p38, ERK, and JNK stainings in UA, RA, and SpA patients. Magnification 400x

Supplemental Figure 3. Relative MAPK activation in relation to disease outcome in patients classified by 2010 ACR/EULAR criteria. Quantitative comparison of relative MAPK phosphorylation in the synovial tissue of patients classified according to 2010 ACR/EULAR criteria as UA which remained UA after two years (UA>>UA), and UA which was diagnosed as RA after two years (UA>>RA). Relative phosphorylation levels of p38, ERK, and JNK were calculated for patients diagnosed with UA>>UA and UA»RA.

Supplemental Figure 4. Relationship between relative MAPK phosphorylation in the synovial tissue of early arthritis patients and the presence of autoantibodies in patient serum. RA patients were grouped based on the presence (+) or absence (-) of rheumatoid factor (RF, left panels) or anti-citrullinated protein antibodies (ACPA, right panels) and relative MAPK phosphorylation levels (ratio of IOD phosphorylated protein to IOD of total protein, arbitrary units) of p38, ERK, and JNK were calculated for each patient. Data is presented as box plots, where the boxes represent the 25th to 75th percentiles, the line within the boxes mark the median value, and lines outside the boxes denote the 10th and 90th percentiles. *P* values (*p*) of statistically significant differences between patient groups are indicated.