

CORRECTION

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Correction to: The citrullinated/native index of autoantibodies against hnRNP-DL predicts an individual “window of treatment success” in RA patients

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Following publication of the original article [1], the authors reported an error in Additional file 1 wherein the track changes are visible. The Additional file 1 has been updated.

The original article [1] has been updated.

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s13075-021-02639-z>.

Additional file 1: Figure 1. Sequence, structure and major immunogenic region (mir) of hnRNP-D and hnRNP-DL. A, Schematic representation of hnRNP-D (isoform p45), hnRNP-DL and the different recombinant hnRNP-DL variants studied. The main structural features are highlighted. Mir-region is the major immunogenic region, RBD1 and RBD2 are RNA-binding domains 1 and 2, Gly-rich is the C-terminal glycine-rich region of the proteins. B, Global amino acid sequence alignment of hnRNP-D and hnRNP-DL1 (isoform 1). HnRNP-D and -DL share 89.1% similarity by sequence [1]. Regions “mir”, “RBD1”, “RBD2” and “Gly-rich” are highlighted. **Figure 2.** Characterisation of autoantibodies against, A, citrullinated

α -hnRNP-DLmir (cit-DL), B, α -hnRNP-DLmir (DL) and C, Δ OD between cit-DL and DL (Δ DL) determined by ELISA in sera of other diseases (n=127; MS n=20, reA n=7, Sclero n=20, Sjö n=20, PsA n=20, MB n=20, OA n=20). The dotted lines mark the cutoff vs. other diseases (except systemic lupus erythematosus) or healthy controls with 98% specificity each. OD, optical density; nm, nano meter; vs., versus; MS, multiple sclerosis; reA, reactive arthritis; Sclero, scleroderma; Sjö, Sjögren’s syndrome; PsA, psoriasis arthritis; MB, ankylosing spondylitis; OA, Osteoarthritis. **Table 1.** Mann Whitney U-test of (cit) α -hnRNP-DLmir-OD signals of seropositive and seronegative data sets of RA-cohorts. **Table 2.** Mann Whitney U-test of cit α -hnRNP-DLmir-OD signals of seronegative data sets of RA-cohorts and data sets of other inflammatory diseases. **Figure 3.** XY-Plot and Spearman Correlation of citrullinated or native α -hnRNP-DLmir versus Δ hnRNP-DLmir for the early RA cohort EIRA (A/D; n=404), the seropositive EIRA sera (B/E; n=202) and the seronegative EIRA sera (C/F; n=202). **Table 3.** Spearman correlation of the early RA sera of the EIRA cohort (n=404). The results are given as R value (left of slash) with the corresponding p-value (right of slash). **Table 4.** Spearman correlation of the 242 EIRA sera treated with MTX (α -CCP2 positive n=133, α -CCP2 negative n=109). The results are given as R value (left of slash) with the corresponding p-value (right of slash). **Table 5.** Spearman correlation of the established RA sera of the Predict cohort (n=94; RF IgM and/or α -CCP2 positive n=64, RF IgM and α -CCP2 negative n=30). The results are given as R value (left of slash) with the corresponding p-value (right of slash). **Table 6.** ROC analysis of native hnRNP-DLmir of MTX-treated EIRA patients (n=192; seropositive n=93, seronegative n=99). **Table 7.** Negative CNDL-index of MTX-treated EIRA patients n=192 (Resp. n=161, non-Resp. n=31). **Table 8.** ROC analysis of native hnRNP-DLmir of Enbrel®-treated Predict patients (n=94; seropositive n=63, seronegative n=31). **Figure 4.** High baseline

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titer against α -hnRNP-DLmir (DL) is rather present in 6-month EULAR Responder RA patients who had received MTX or α -TNF inhibitor therapy (Enbrel®). A-C, Citrullinated α -hnRNP-DLmir (citDL) (A), α -hnRNP-DLmir (DL) (B) and Δ OD between citDL and DL (Δ DL) (C) were measured by ELISA in patient sera from the EIRA cohort treated with MTX (n=192) with 161 EULAR Responder and 31 EULAR non-Responder among 6 months. The evaluation was done according to the cutoff versus other diseases. D, α -DL were measured by ELISA in patient sera from the Predict cohort treated with α -TNF inhibitor therapy with 6-month EULAR response data (n=94, responder n=63, non-Responder n=31). Based on the signals, a response-cutoff (dotted line, OD 0.174) was determined, from which only responders are recognized as positive. OD, optical density; nm, nano meter; RA, rheumatoid arthritis; SLE, systemic lupus erythematosus; MTX, Methotrexate; Resp., 6-month EULAR Responder. **Figure 5.** A, Influence of cytokines on hnRNP-DL expression determined by immunoblotting. Cellular extracts from unstimulated, IL1 α - or TNF α -stimulated HeLa cells and from unstimulated and IL6-stimulated HepG2 cells were probed with α -hnRNP-DL1/2-peptide specific rabbit serum. B, Citrullination of hnRNP-DL in synovial tissue from a patient with rheumatoid arthritis was investigated with an α -deiminated arginine antibody and an α -hnRNP-DL antibody. Both positive bands were labeled with hnRNP-DL, which isoforms were not analysed.

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