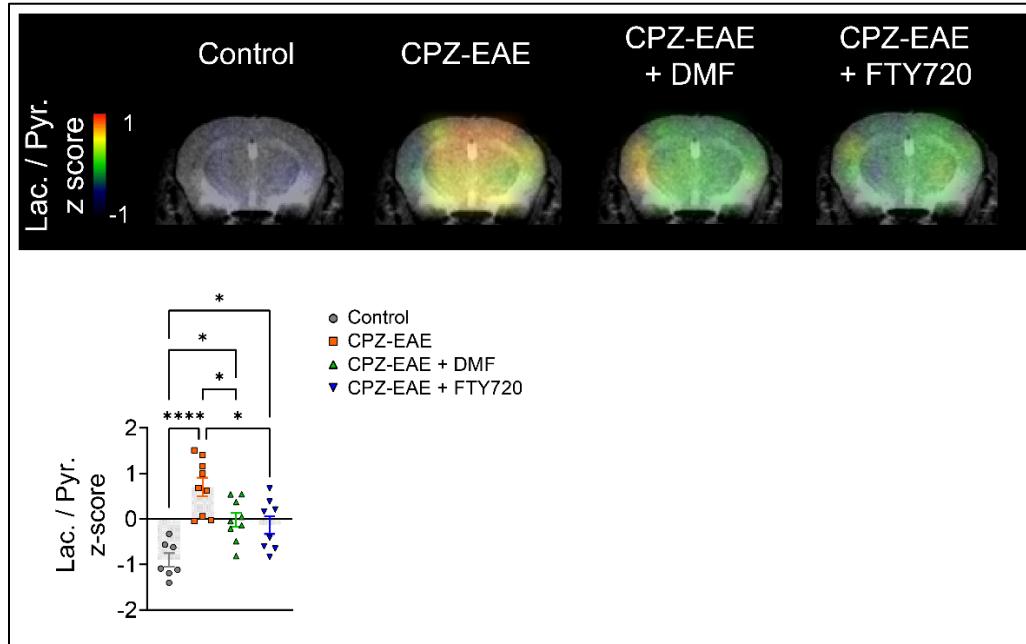
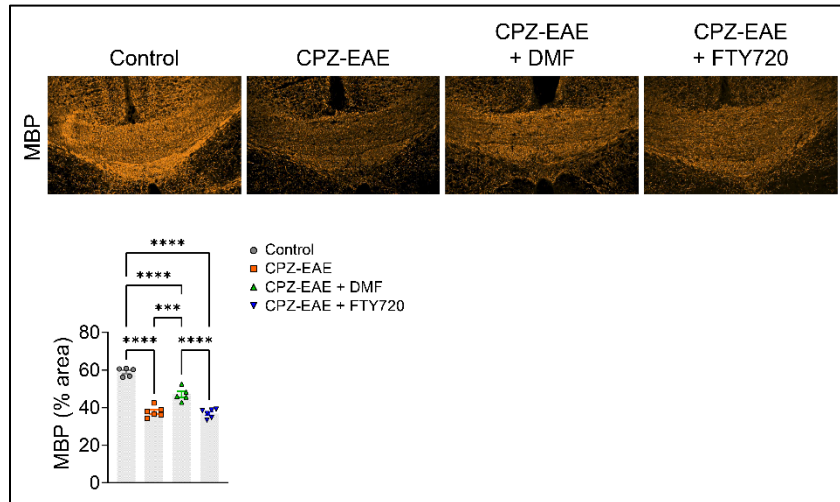


Supplementary Materials



Supplementary Figure 1. ^{13}C lactate/pyruvate mean z-score detects therapy responses.

^{13}C lactate/pyruvate mean z-score color maps overlaid on a representative T_2 -weighted image for the control, CPZ-EAE, CPZ-EAE + DMF and CPZ-EAE + FTY720 groups. Quantitative analyses revealed significant increase of the ^{13}C lactate/pyruvate z-score in CPZ-EAE mice compared to Control mice. Both DMF and FTY720 showed lower ^{13}C lactate/pyruvate z-score compared to untreated CPZ-EAE mice. (*p ≤ 0.05, ****p ≤ 0.0001).



Supplementary Figure 2. Evaluation of myelin basic protein levels following immunomodulatory therapies in the CPZ-EAE model.

Representative immunofluorescence staining of myelin basic protein (MBP, orange) in the corpus callosum from control, CPZ-EAE, CPZ-EAE + DMF and CPZ-EAE + FTY720 mice. Demyelination was confirmed by a 1.6 fold decrease MBP in untreated CPZ-EAE mice compared to control mice ($p < 0.0001$). DMF treated mice displayed an increased MBP content (+1.25 fold, $p = 0.0002$) compared to untreated CPZ-EAE mice, while no change was observed following FTY720 ($***p \leq 0.001$, $****p \leq 0.0001$).