

Table S3. Organ-specific fHVR inflammation signatures.*

| Domain | Fetal Heart Rate Variability Measures | R** |
|--|---|------|
| <i>Terminal ileum inflammation signature</i> | | |
| Invariant | Higuchi scaling exponent, higu | 0.76 |
| Statistical | Mean of the differences, mDiff | 0.87 |
| Geometric | Second Dynamical Moment, DM2 | 0.79 |
| Energetic | High frequency power | 0.87 |
| Invariant | Detrended fluctuation analysis: alpha | 0.89 |
| Statistical | Kurtosis | 0.71 |
| Statistical | Lee Parameter | 0.77 |
| Statistical | Interquartile Range | 0.73 |
| Statistical | Symbolic dynamics: percentage of 1 variations sequences, non-uniform case | 0.73 |
| Statistical | Standard deviation | 0.8 |
| Statistical | Coefficient of variation | 0.8 |
| Statistical | Symbolic dynamics: Shannon entropy, nonuniform case, SymDse_2 | 0.72 |
| Geometric | Poincare plot: SD2 | 0.76 |
| Informational | Allan factor distance from a Poisson distribution, aFdP | 0.75 |
| Informational | Shannon Entropy | 0.88 |
| Invariant | Embedded Scaling Exponent, eScaleE | 0.71 |
| Invariant | Detrended fluctuation analysis: area under the curve | 0.71 |
| Invariant | Embedded Scaling Exponent, eScaleE | 0.78 |
| <i>Brain inflammation signature</i> | | |
| Statistical | Lee Parameter | 0.83 |
| Statistical | Form factor | 0.85 |
| Geometric | RQA: percentage of determinism | 0.85 |
| Geometric | RQA: percentage of laminarity | 0.85 |
| Geometric | Second Dynamical Moment, DM2 | 0.85 |
| Geometric | Poincare Plot: SD2 | 0.83 |
| Geometric | Poincare Plot: CSI | 0.85 |
| Energetic | High frequency power | 0.83 |
| Informational | Index of variability distance from a poisson distribution | 0.85 |
| Informational | Similarity index of the distributions, histSI | 0.89 |
| Informational | Grid transformation feature: AND similarity index | 0.85 |
| Invariant | Detrended fluctuation analysis: alpha | 0.93 |
| Invariant | Higuchi scaling exponent, higu | 0.9 |
| Invariant | Detrended fluctuation analysis: alpha 1 | 0.93 |
| Invariant | MultiFractal spectrum cumulant of the first order, MultiFractal_c1 | 0.83 |

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** Spearman correlation coefficient, $p < 0.01$