Data Article

Cytokine data obtained from synovial stromal cells of patients with rheumatoid arthritis or osteoarthritis

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In this article, we share the raw cytokine data obtained from basal and stimulated synovial stromal cells cultured from patients with rheumatoid arthritis or osteoarthritis. This data article is related to the research article entitled “1,25D3 and calcipotriol, its hypo-calcemic analog, exert a long-lasting anti-inflammatory and anti-proliferative effect in synoviocytes cultured from patients with rheumatoid arthritis and osteoarthritis (1). Cytokine levels were analyzed by a magnetic bead–based multiplex assay (a panel of 27 important cytokines) in two separate sets of experiments. The first was conducted with IL-1β and 1,25(OH)2D3 and the other with TNFα, calcipotriol, i.e. the hypocalcemic analog 1,25(OH)2D3, and dexamethasone. The raw data of this article display the individual variation in basal secretion of cytokines and in their response to different stimuli.

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**Specifications table**

| Subject area | Translational science |
|--------------|------------------------|
| More specific subject area | Inflammation in the synovium of rheumatoid arthritis and osteoarthritis patients |
| Type of data | Tables, text |
| How data was acquired | Cytokines were measured by the Luminex MagPix Instrument and Luminex xPotent Software and Bio-Rad Bio-Plex Pro Human Cytokine Grp I Panel (27-plex) PGE2 data is produced by ELISA (Thermo Scientific, USA) |
| Data format | raw cytokine data |
| Experimental factors | Basal and exposed samples from the cell culture media were collected and analyzed for cytokines. |
| Experimental features | Cytokine levels were analyzed by a magnetic bead-based multiplex assay (a panel of 27 important cytokines) after a 48-h treatment with different stimuli |
| Data source location | Oulu, Finland, 65°01’N, 025°28’E |
| Data accessibility | Data is with this article |

**Value of the data**

- The raw cytokine data in this article reveal the natural variation of cytokine levels in cultured synovial stromal cells obtained from patients with rheumatoid arthritis or osteoarthritis.
- This data shows absolute cytokine levels in baseline and stimulated states (stimulated with TNF-α or IL-1β) and when treated with anti-inflammatory factors [1,25(OH)2D3, calcipotriol or dexamethasone].
- By examining the individual responses to different stimuli, it is possible to evaluate the individual and overall significance of different cytokines in the synovial pathology of rheumatoid arthritis and osteoarthritis. This kind of data can help to identify the most important cytokines for further analysis by other research groups.

**1. Data**

See Tables 1 and 2.

**Table 1**

Basal and stimulated levels of cytokines (pg/ml) after a 48-h exposure with IL-1β (10 ng/ml) and 1,25(OH)2D3 (10 nM). The apparent level of IL-1β was mostly attributable to the added IL-1β. Data comprises cell cultures from four patients with osteoarthritis (OA) and four with rheumatoid arthritis (RA). Cytokines have been analyzed in two separate runs which explains the slight difference in the lower detection limit. The final data is presented in Fig. 8 of the research article [1].

| Cytokine         | Patient | IL-1β | IL-1β + 1,25(OH)2D3 |
|------------------|---------|-------|-------------------|
| MIP-1β           | OA      | 27.5  | 20.7              |
|                  | OA      | 136.7 | 114.21            |
|                  | OA      | 44.2  | 21.1              |
|                  | OA      | 25.3  | 16.3              |
|                  | RA      | 33.21 | 28.61             |
|                  | RA      | 48.6  | 42                |
|                  | RA      | 74.82 | 92.9              |
|                  | RA      | < 14.7| < 14.7            |
Table 1 (continued)

| Cytokine | Patient | IL-1β | IL-1β + 1.25 (OH)_{2}D_{3} |
|----------|---------|-------|---------------------------|
| IL-6     | OA      | > 38026 | 15,859 |
|          | OA      | > 100917 | 30,910 |
|          | OA      | > 100917 | 16,158 |
|          | RA      | > 100917 | 39,876 |
|          | RA      | > 100917 | 78,084 |
|          | RA      | > 38026 | 27,060 |
| IFN-γ    | OA      | 65.1   | 43.1 |
|          | OA      | 83.5   | 76.1 |
|          | OA      | 103.7  | 72.5 |
|          | OA      | 104.6  | 77.2 |
|          | RA      | 71.5   | 56.1 |
|          | RA      | 73.4   | 70.3 |
|          | RA      | 114.9  | 109.3 |
|          | RA      | 94.1   | 77.8 |
| IL-1ra   | OA      | 147.1  | 93.1 |
|          | OA      | 159.0  | < 88.6 |
|          | OA      | 196.1  | 137.1 |
|          | RA      | 200.1  | 144.9 |
|          | RA      | 173.0  | 138.8 |
|          | RA      | 177.5  | 171.6 |
|          | RA      | 216.0  | 213.1 |
|          | RA      | 182.5  | 156.9 |
| IL-5     | OA      | < 24.73 | < 24.73 |
|          | OA      | < 24.73 | < 24.73 |
|          | OA      | < 24.73 | < 24.73 |
|          | OA      | < 24.73 | < 24.73 |
|          | RA      | < 24.73 | < 24.73 |
|          | RA      | < 24.73 | < 24.73 |
|          | RA      | < 24.73 | < 24.73 |
|          | RA      | < 24.73 | < 24.73 |
| GM-CSF   | OA      | 88.95  | 71.8 |
|          | OA      | 106.3  | 82.9 |
|          | OA      | 129.8  | 85.2 |
|          | OA      | 197.2  | 95.7 |
|          | RA      | 95.8   | 90.1 |
|          | RA      | 93.2   | 78.3 |
|          | RA      | 119.9  | 106.3 |
|          | RA      | 124.7  | 91.4 |
| TNF-α    | OA      | < 79.83 | < 79.83 |
|          | OA      | < 79.83 | < 79.83 |
|          | OA      | < 79.83 | < 79.83 |
|          | OA      | < 79.83 | < 79.83 |
|          | RA      | < 79.83 | 148.59 |
|          | RA      | < 79.83 | < 79.83 |
|          | RA      | < 79.83 | < 79.83 |
|          | RA      | < 79.83 | < 79.83 |
| RANTES   | OA      | 167.4  | 135.4 |
|          | OA      | 2716.0 | 2897.0 |
|          | OA      | 476.0  | 336.6 |
|          | OA      | 223.5  | 187.5 |
|          | RA      | 489.4  | 493.9 |
|          | RA      | 1095   | 927.3 |
|          | RA      | > 1267 | 1267 |
|          | RA      | 256.5  | 205.0 |
| IL-2     | OA      | < 13.52 | < 13.52 |
|          | OA      | 14.51  | 13.76 |
|          | OA      | 15.21  | 14.83 |
|          | OA      | 16.24  | 14.83 |
|          | RA      | < 13.52 | < 13.52 |
| Cytokine | Patient | IL-1β &lt; 13.52 | IL-1β + 1.25 (OH)₂D₃ | IL-1β &lt; 13.52 | IL-1β + 1.25 (OH)₂D₃ |
|----------|---------|-------------------|---------------------|-------------------|---------------------|
|          | RA      | 15.57             | 14.83               | 15.06             | 14.83               |
| IL-1β    | OA      | 98.0              | 71.4                | 96.8              | 108.4               |
|          | OA      | 76.5              | 62.9                | 77.8              | 70.5                |
|          | RA      | 85.3              | 74.7                | 86.3              | 83.8                |
|          | RA      | 97.8              | 102.4               | 98.0              | 76.5                |
| Eotaxin  | OA      | &lt; 25.51         | &lt; 25.51           | &lt; 25.51         | &lt; 25.51           |
|          | OA      | 29.3              | 36.9                | 29.3              | 36.9                |
|          | OA      | 36.3              | 29.2                | 33.3              | 28.8                |
|          | OA      | 42.3              | 26.6                | 42.3              | 26.6                |
|          | RA      | 48.5              | 40.5                | 48.5              | 40.5                |
|          | RA      | 34.3              | 27.3                | 34.3              | 27.3                |
| VEGF     | OA      | 477.7             | 282.5               | 477.7             | 282.5               |
|          | OA      | 1013.0            | 906.3               | 1013.0            | 906.3               |
|          | OA      | 496.4             | 317.9               | 496.4             | 317.9               |
|          | OA      | 343.8             | 299.6               | 343.8             | 299.6               |
|          | RA      | 818.2             | 562.6               | 818.2             | 562.6               |
|          | RA      | 1060.0            | 1032.0              | 1060.0            | 1032.0              |
|          | RA      | 1054.0            | 1136.0              | 1054.0            | 1136.0              |
|          | RA      | 843.2             | 688.5               | 843.2             | 688.5               |
| PDGF-BB  | OA      | &lt; 29.30         | &lt; 29.30           | &lt; 29.30         | &lt; 29.30           |
|          | OA      | &lt; 29.30         | &lt; 29.30           | &lt; 29.30         | &lt; 29.30           |
|          | OA      | &lt; 28.16         | &lt; 28.16           | &lt; 28.16         | &lt; 28.16           |
|          | RA      | &lt; 29.30         | &lt; 29.30           | &lt; 29.30         | &lt; 29.30           |
|          | RA      | &lt; 28.16         | &lt; 28.16           | &lt; 28.16         | &lt; 28.16           |
|          | RA      | &lt; 28.16         | &lt; 28.16           | &lt; 28.16         | &lt; 28.16           |
| IP-10    | OA      | 96.7              | 88.1                | 96.7              | 88.1                |
|          | OA      | 704.9             | 638.0               | 704.9             | 638.0               |
|          | OA      | 32.23             | 32.23               | 32.23             | 32.23               |
|          | RA      | 158.9             | 286.6               | 158.9             | 286.6               |
|          | RA      | 264.8             | 234.6               | 264.8             | 234.6               |
| IL-13    | OA      | &lt; 28.57         | &lt; 28.57           | &lt; 28.57         | &lt; 28.57           |
|          | OA      | &lt; 28.57         | &lt; 28.57           | &lt; 28.57         | &lt; 28.57           |
|          | OA      | &lt; 31.09         | &lt; 31.09           | &lt; 31.09         | &lt; 31.09           |
|          | OA      | &lt; 31.09         | &lt; 31.09           | &lt; 31.09         | &lt; 31.09           |
|          | RA      | &lt; 28.57         | &lt; 28.57           | &lt; 28.57         | &lt; 28.57           |
|          | RA      | &lt; 28.57         | &lt; 28.57           | &lt; 28.57         | &lt; 28.57           |
|          | RA      | &lt; 31.09         | &lt; 31.09           | &lt; 31.09         | &lt; 31.09           |
| IL-4     | OA      | &lt; 4.52          | &lt; 4.52            | &lt; 4.52          | &lt; 4.52            |
|          | OA      | 4.52              | 4.52                | 4.52              | 4.52                |
Table 1 (continued)

| Cytokine | Patient | IL-1β | IL-1β + 1,25 (OH)₂D₃ |
|----------|---------|-------|----------------------|
|          | OA      | < 4.36| < 4.36               |
|          | OA      | < 4.36| < 4.36               |
|          | RA      | < 4.52| < 4.52               |
|          | RA      | < 4.52| < 4.52               |
|          | RA      | < 4.36| < 4.36               |
|          | RA      | < 4.36| < 4.36               |
| MCP-1    | OA      | 1997  | 1824                 |
|          | OA      | 1476  | 1730                 |
|          | OA      | > 1534| > 1534               |
|          | OA      | > 1534| > 1534               |
|          | RA      | 1463  | 2284                 |
|          | RA      | 1083  | 1508                 |
|          | RA      | > 1534| > 1534               |
|          | RA      | > 1534| > 1534               |
| IL-8     | OA      | 28,810| 14,989               |
|          | OA      | 18,797| 18,025               |
|          | OA      | > 7797| > 7797               |
|          | OA      | > 7797| > 7797               |
|          | RA      | 27,905| 24,905               |
|          | RA      | 20,120| 21,055               |
|          | RA      | > 7797| > 7797               |
|          | RA      | > 7797| > 7797               |
| MIP-1α   | OA      | < 16.16| < 16.16            |
|          | OA      | < 16.16| < 16.16            |
|          | OA      | < 1.93 | < 1.93              |
|          | OA      | < 1.93 | < 1.93              |
|          | RA      | < 16.16| < 16.16            |
|          | RA      | < 16.16| < 16.16            |
|          | RA      | < 1.93 | < 1.93              |
|          | RA      | < 1.93 | < 1.93              |
| IL-10    | OA      | < 33.10| < 33.10            |
|          | OA      | < 33.10| < 33.10            |
|          | OA      | < 32.23| < 32.23            |
|          | OA      | < 32.23| < 32.23            |
|          | RA      | < 33.10| < 33.10            |
|          | RA      | < 33.10| < 33.10            |
|          | RA      | < 32.23| < 32.23            |
|          | RA      | < 32.23| < 32.23            |
| G-CSF    | OA      | 419.1  | 252.9                |
|          | OA      | 3701  | 1328                 |
|          | OA      | 5872  | 3586                 |
|          | OA      | 36,202| 9641                 |
|          | RA      | 1422  | 1231                 |
|          | RA      | 1066  | 1155                 |
|          | RA      | 5015  | 8282                 |
|          | RA      | 2819  | 1270                 |
| IL-15    | OA      | 21.3  | < 20.9               |
|          | OA      | 39.1  | 39.3                 |
|          | OA      | 38.8  | 29.1                 |
|          | OA      | 50.1  | 29.1                 |
|          | RA      | 33.0  | 25.1                 |
|          | RA      | 35.7  | 32.1                 |
|          | RA      | 57.4  | 52.3                 |
|          | RA      | 43.6  | 22.8                 |
| IL-7     | OA      | < 32.96| < 32.96            |
|          | OA      | < 32.96| < 32.96            |
|          | OA      | < 34.29| < 34.29            |
|          | OA      | < 34.29| < 34.29            |
|          | RA      | < 32.96| < 32.96            |
|          | RA      | < 32.96| < 32.96            |
Table 1 (continued)

| Cytokine | Patient | IL-1β | IL-1β + 1.25 (OH)₂D₃ |
|----------|---------|-------|---------------------|
|          | RA      | < 34.29 | < 34.29 |
|          | RA      | < 34.29 | < 34.29 |
| IL-12(p70) | OA      | 34.2 | 24.1 |
|          | OA      | 62.3 | 59.7 |
|          | OA      | < 35.41 | < 35.41 |
|          | OA      | < 35.41 | < 35.41 |
|          | RA      | 53.2 | 38.4 |
|          | RA      | 62.6 | 63.2 |
|          | RA      | 59.0 | 60.6 |
|          | RA      | 45.0 | 40.5 |
| IL-17α   | OA      | 49.3 | 37.1 |
|          | OA      | 64.5 | 60.8 |
|          | OA      | 65.7 | 47.0 |
|          | OA      | 70.2 | 49.4 |
|          | RA      | 57.1 | 46.4 |
|          | RA      | 57.3 | 57.9 |
|          | RA      | 73.6 | 72.4 |
|          | RA      | 56.9 | 47.3 |
| IL-9     | OA      | < 9.16 | < 9.16 |
|          | OA      | < 9.16 | < 9.16 |
|          | OA      | < 8.09 | < 8.09 |
|          | RA      | < 9.16 | < 9.16 |
|          | RA      | < 8.09 | < 8.09 |
|          | RA      | < 8.09 | < 8.09 |

Table 2

Basal and stimulated levels of cytokines (pg/ml) after a ti–> td:48-hour–>48-h exposure with TNF-α (10 ng/ml) alone or TNF-α (10 ng/ml) with calcipotriol (10 nM) or dexamethasone (10 nM) or combination of all. The apparent increase of TNF-α was mostly attributable to the added TNF-α. Data comprises cell cultures from 2 to 6 patients with osteoarthritis (OA) or rheumatoid arthritis (RA). The final data is presented in Fig. 9 of the research article (the basal cytokine secretion not included) [1].

| Cytokine | Patient | no stimulation (basal) | TNF-α | TNF-α + calcipotriol | TNF-α + dex | TNF-α + calcipotriol + dex |
|----------|---------|------------------------|-------|----------------------|-------------|-----------------------------|
| MIP-1β   | OA      | < 13.77                | 47.3  | 34.7                 |             |                             |
|          | OA      | < 13.77                | 128.9 | 58.9                 |             |                             |
|          | RA      | < 13.77                | 62.8  | 53.5                 |             |                             |
|          | RA      | < 13.77                | 116.2 | 85.2                 |             |                             |
| IL-6     | OA      | > 2971                 | 1511  | 802                  | 456         |                             |
|          | OA      | > 2971                 | 2247  | 1069                 | 397         |                             |
|          | OA      | > 2971                 | 2643  | 774                  | 375         |                             |
|          | OA      | > 2971                 | 2971  | 615                  | 358         |                             |
|          | OA      | 349.5                  | 16,250| 4046                 |             |                             |
|          | OA      | 301.3                  | 22,863| 3164                 |             |                             |
|          | RA      | 7829                   | 3859  | 2831                 | 1420        |                             |
|          | RA      | 4473                   | 2073  | 1075                 | 585         |                             |
|          | RA      | 5810                   | 3590  | 2692                 | 1387        |                             |
|          | RA      | 21,968                 | 9640  | 5780                 | 3568        |                             |
|          | RA      | 860.9                  | 17,409| 7455                 |             |                             |
|          | RA      | 686.8                  | 30,296| 10,031               |             |                             |
| IFN-γ    | OA      | 41.2                   | 26.5  | 24.0                 | 23.3        |                             |
|          | OA      | 56.7                   | 29.4  | 30.7                 | 24.0        |                             |
|          | OA      | 52.7                   | 30.5  | 27.3                 | 21.8        |                             |
|          | OA      | 38.2                   | 33.8  | 29.1                 | 22.1        |                             |
|          | OA      | < 21.48                | 57.4  | 36.5                 |             |                             |
|          | OA      | < 21.48                | 61.2  | 31.3                 |             |                             |
|          | RA      | 67.0                   | 40.1  | 40.8                 | 31.3        |                             |
|          | RA      | 51.0                   | 36.0  | 33.0                 | 27.8        |                             |
| Cytokine | Patient | no stimulation (basal) | TNF-α | TNF-α + calcipotriol | TNF-α + dex | TNF-α + calcipotriol + dex |
|----------|---------|------------------------|--------|----------------------|------------|---------------------------|
| RA       | 66.5    | 36.4                   | 36.2   | 21.9                 |
| RA       | 88.0    | 55.8                   | 57.5   | 41.5                 |
| RA < 21.48 | 54.4   | 41.6                   |        |                      |
| RA < 21.48 | 78.1   | 47.1                   |        |                      |
| IL-1ra   | OA < 88.59 | 147.1               | 93.1   |                      |
| OA < 88.59 | 159.0 | < 88.6                 |        |                      |
| RA < 88.59 | 148.8 | 110.7                  |        |                      |
| RA < 88.59 | 201.0 | 127.2                  |        |                      |
| IL-5     | OA < 24.73 | < 24.73               | 24.73  | 24.73                |
| OA < 24.73 | < 24.73 | < 24.73                |        |                      |
| RA < 24.73 | < 24.73 | < 24.73                |        |                      |
| RA < 24.73 | < 24.73 | < 24.73                |        |                      |
| GM-CSF   | OA 81.2 | 69.3                   | 66.9   | 70.8                 |
| OA 77.6 | 67.2 | 68.5                   | 66.0   |                      |
| OA 56.3 | 67.4 | 66.5                   | 61.1   |                      |
| OA 73.1 | 72.1 | 61.1                   | 64.1   |                      |
| OA 48.19 | 70.7 | 50.6                   |        |                      |
| OA 53.72 | 75.7 | 57.1                   |        |                      |
| RA 79.9 | 68.5 | 70.2                   | 69.5   |                      |
| RA 88.7 | 67.8 | 68.2                   | 70.0   |                      |
| RA 83.4 | 71.2 | 72.0                   | 59.7   |                      |
| RA 92.0 | 75.4 | 76.8                   | 74.5   |                      |
| RA 51.83 | 63.8 | 58.1                   |        |                      |
| RA 44.88 | 59.7 | 37.3                   |        |                      |
| TNF-α    | OA < 79.83 | 3160                | 2298   |                      |
| OA < 79.83 | 5322 | 2077                   |        |                      |
| RA < 79.83 | 3421 | 2533                   |        |                      |
| RA < 79.83 | 3062 | 1598                   |        |                      |
| RANTES   | OA 606.7 | 270.5                 | 339.4  | 133.6                |
| OA 897.8 | 341.0 | 1267.0                 | 363.5  |                      |
| OA 1267.0 | 447.1 | 660.4                 | 268.0  |                      |
| OA 820.6 | 481.2 | 1267.0                 | 363.8  |                      |
| OA < 24.76 | 3973.0 | 5040.0                |        |                      |
| OA < 24.76 | 2887.0 | 1323.0                |        |                      |
| RA 302.9 | 180.0 | 371.0                 | 160.5  |                      |
| RA 1163.0 | 560.1 | 1267.0                 | 442.3  |                      |
| RA 862.4 | 167.8 | 672.7                 | 167.9  |                      |
| RA < 24.76 | 3505 | 3080                   |        |                      |
| RA < 24.76 | 2782 | 2963                   |        |                      |
| IL-2     | OA < 13.52 | < 13.52               | < 13.52| < 13.52              |
| OA < 13.52 | < 13.52 | < 13.52                |        |                      |
| RA < 13.52 | < 13.52 | < 13.52                |        |                      |
| RA < 13.52 | 15.42 | < 13.52                |        |                      |
| IL-1β    | OA < 30.49 | < 30.49               | < 30.49| < 30.49              |
| OA < 30.49 | < 30.49 | < 30.49                |        |                      |
| RA < 30.49 | < 30.49 | < 30.49                |        |                      |
| RA < 30.49 | < 30.49 | < 30.49                |        |                      |
| Eotaxin  | OA < 25.51 | < 25.51               | < 25.51| < 25.51              |
| OA < 25.51 | < 25.51 | < 25.51                |        |                      |
| RA < 25.51 | < 25.51 | < 25.51                |        |                      |
| RA < 25.51 | < 25.51 | < 25.51                |        |                      |
| Basic FGF | OA 33.2 | 20.0                   | 18.7   | 17.9                 |
| OA 30.3 | 24.4 | 22.0                   | 19.5   |                      |
| OA 25.5 | 19.6 | 18.0                   | 17.3   |                      |
| OA 23.6 | 21.9 | 19.2                   | 17.8   |                      |
| OA < 11.22 | 23.2 | 19.5                   |        |                      |
| OA < 11.22 | 25.9 | 17.5                   |        |                      |
| RA 31.9 | 22.5 | 22.6                   | 20.9   |                      |
| RA 27.8 | 22.6 | 21.05                  | 19.8   |                      |
| RA 27.0 | 20.3 |              |        |                      |
| Cytokine | Patient | no stimulation (basal) | TNF-α | TNF-α + calcipotriol | TNF-α + dex | TNF-α + calcipotriol + dex |
|---------|---------|-----------------------|-------|---------------------|-------------|--------------------------|
|         | RA      | RA < 11.22            | RA < 11.22 |                     |             |                          |
|         | VEGF    | OA 172.7              | 128.0  | 82.3                | 69.7        |                          |
|         |         | OA 242.1              | 135.8  | 101.8               | 94.2        |                          |
|         |         | OA 211.5              | 120.5  | 91.7                | 66.5        |                          |
|         |         | OA 192.3              | 187.9  | 89.8                | 77.9        |                          |
|         |         | OA 142.24             | 142.1  | 127.9               |             |                          |
|         |         | OA 127.62             | 175.2  | 117.4               |             |                          |
|         |         | RA 226.5              | 185.0  | 109.5               | 101.8       |                          |
|         |         | RA 259.9              | 182.4  | 132.3               | 103.4       |                          |
|         |         | RA 186.8              | 132.6  | 79.4                | 65.0        |                          |
|         |         | RA 337.7              | 208.6  | 133.8               | 124.8       |                          |
|         |         | RA 171.81             | 203.9  | 159.7               |             |                          |
|         |         | RA 164.72             | 182.9  | 201.7               |             |                          |
|         | PDGF-BB | OA < 29.30            | < 29.30| < 29.30             |             |                          |
|         |         | OA < 29.30            | < 29.30| < 29.30             |             |                          |
|         |         | RA < 29.30            | < 29.30| < 29.30             |             |                          |
|         |         | RA < 29.30            | < 29.30| < 29.30             |             |                          |
|         |         | IP-10 OA 497.2        | 100.8  | 274.3               | 146.1       |                          |
|         |         | OA 774.1              | 110.8  | 446.5               | 187.5       |                          |
|         |         | OA 771.6              | 91.9   | 230.8               | 133.7       |                          |
|         |         | OA 235.0              | 73.2   | 184.6               | 105.4       |                          |
|         |         | OA < 33.10            | 1761   | 2238                |             |                          |
|         |         | OA < 33.10            | 789.4  | 132.7               |             |                          |
|         |         | RA 275.4              | 85.0   | 196.5               | 123.8       |                          |
|         |         | RA 1015               | 258.9  | 518.3               | 231.2       |                          |
|         |         | RA 504.5              | 45.8   | 187.4               | 62.9        |                          |
|         |         | RA 1727               | 257.2  | 569.4               | 329.8       |                          |
|         |         | RA < 33.10            | 1040   | 475.1               |             |                          |
|         |         | RA < 33.10            | 27,285 | 2931                |             |                          |
|         | IL-13   | OA < 28.57            | < 28.57| < 28.57             |             |                          |
|         |         | OA < 28.57            | < 28.57| < 28.57             |             |                          |
|         |         | RA < 28.57            | < 28.57| < 28.57             |             |                          |
|         |         | RA < 28.57            | < 28.57| < 28.57             |             |                          |
|         |         | IL-4 OA < 4.52        | < 4.52 | < 4.52              |             |                          |
|         |         | OA < 4.52             | < 4.52 | < 4.52              |             |                          |
|         |         | RA < 4.52             | < 4.52 | < 4.52              |             |                          |
|         |         | RA < 4.52             | < 4.52 | < 4.52              |             |                          |
|         |         | MCP-1 OA 243.1        | 1747   | 2170                |             |                          |
|         |         | OA 305.76             | 2132   | 2559                |             |                          |
|         |         | RA 290.81             | 1052   | 1368                |             |                          |
|         |         | RA 464.9              | 824.7  | 922.6               |             |                          |
|         | IL-8    | OA 26.44              | 11,015 | 7844                |             |                          |
|         |         | OA 26.73              | 15,848 | 8703                |             |                          |
|         |         | RA 29.68              | 11,362 | 6805                |             |                          |
|         |         | RA 36.96              | 9399   | 6496                |             |                          |
|         | MIP-1α  | OA < 16.16            | < 16.16| < 16.16             |             |                          |
|         |         | OA < 16.16            | < 16.16| < 16.16             |             |                          |
|         |         | RA < 16.16            | < 16.16| < 16.16             |             |                          |
|         |         | IL-10 OA < 33.10      | < 33.10| < 33.10             |             |                          |
|         |         | OA < 33.10            | < 33.10| < 33.10             |             |                          |
|         |         | RA < 33.10            | < 33.10| < 33.10             |             |                          |
|         |         | RA < 33.10            | < 33.10| < 33.10             |             |                          |
|         | G-CSF   | OA < 29.78            | 45.23  | < 29.78             |             |                          |
|         |         | OA < 29.78            | 55.2   | < 29.78             |             |                          |
|         |         | RA < 29.78            | 49.75  | 40.69               |             |                          |
|         |         | RA < 29.78            | 59.66  | 30.9                |             |                          |
2. Experimental design

Two separate experiments were done: one with IL-1β and 1,25(OH)2D3 (Table 1) and the other with no stimulus, TNF-α, calcipotriol, dexamethasone and a combination of all stimuli (Table 2). PGE2 analysis was done in conjunction with the latter experiment.

2.1. Reagents

1,25(OH)2D3 (Sigma-Aldrich) and calcipotriol (Santa Cruz Biochemistry) were dissolved in 99% ethanol. Recombinant human IL-1β (R&D Systems) and dexamethasone (Sigma-Aldrich) were dissolved in sterile PBS and TNF-α (Sigma-Aldrich) in sterile PBS containing 0.1% BSA. 1,25(OH)2D3 and calcipotriol were stored at −20 °C and cytokines at −80 °C.
2.2. Cell culture experiments with inflammatory and anti-inflammatory stimuli

Primary cell cultures were established as previously described [1]. A half of the media was changed two times every week. All analyses were conducted between the third to fifth passages. The synovial stromal cells from six patients with rheumatoid arthritis and six with osteoarthritis were grown in the complete media in four T175 flasks each containing 300,000 cells until they were 70–80% confluent. The flasks were treated either with TNF-α (10 ng/ml), with TNF-α (10 ng/ml) and calcipotriol (10 nM), or with TNF-α (10 ng/ml) and dexamethasone (10 nM) or with a combination of all three compounds for 48 h. Basal secretion of cytokines was analyzed from vehicle (absolute ethanol) treated cells. The synovial stromal cells from four patients with rheumatoid arthritis and osteoarthritis were used for IL-1β/1,25(OH)2D3 assay. Cells from each patient were cultured in two T175 bottles, one containing IL-1β (0.5 ng/ml) and the other IL-1β (0.5 ng/ml) and 1,25(OH)2D3 (10 nM) for 48 h. The cell culture media were harvested and stored at −80 °C for the cytokine analysis.

2.3. Cytokine analysis

The cytokines present in the medium were quantified with Bio-Rad Bio-Plex Pro Human Cytokine Grp I Panel (27-plex) using the Luminex MagPix Instrument and Luminex xPotent Software.

Transparency document. Supporting information

Transparency data associated with this article can be found in the online version at http://dx.doi.org/10.1016/j.dib.2017.04.041.

Reference

[1] J. Huhtakangas, J. Veijola, S. Turunen, A. Karjalainen, M. Valkealahti, T. Nousiainen, S. Yli-Luukko, O. Vuolteenaho, P. Lehenkari, 1,25D3 and calcipotriol, its hypocalcemic analog, exert a long-lasting anti-inflammatory and anti-proliferative effect in synoviocytes cultured from patients with rheumatoid arthritis and osteoarthritis (http://dx.doi.org/10.1016/j.jsbmb.2017.01.017).