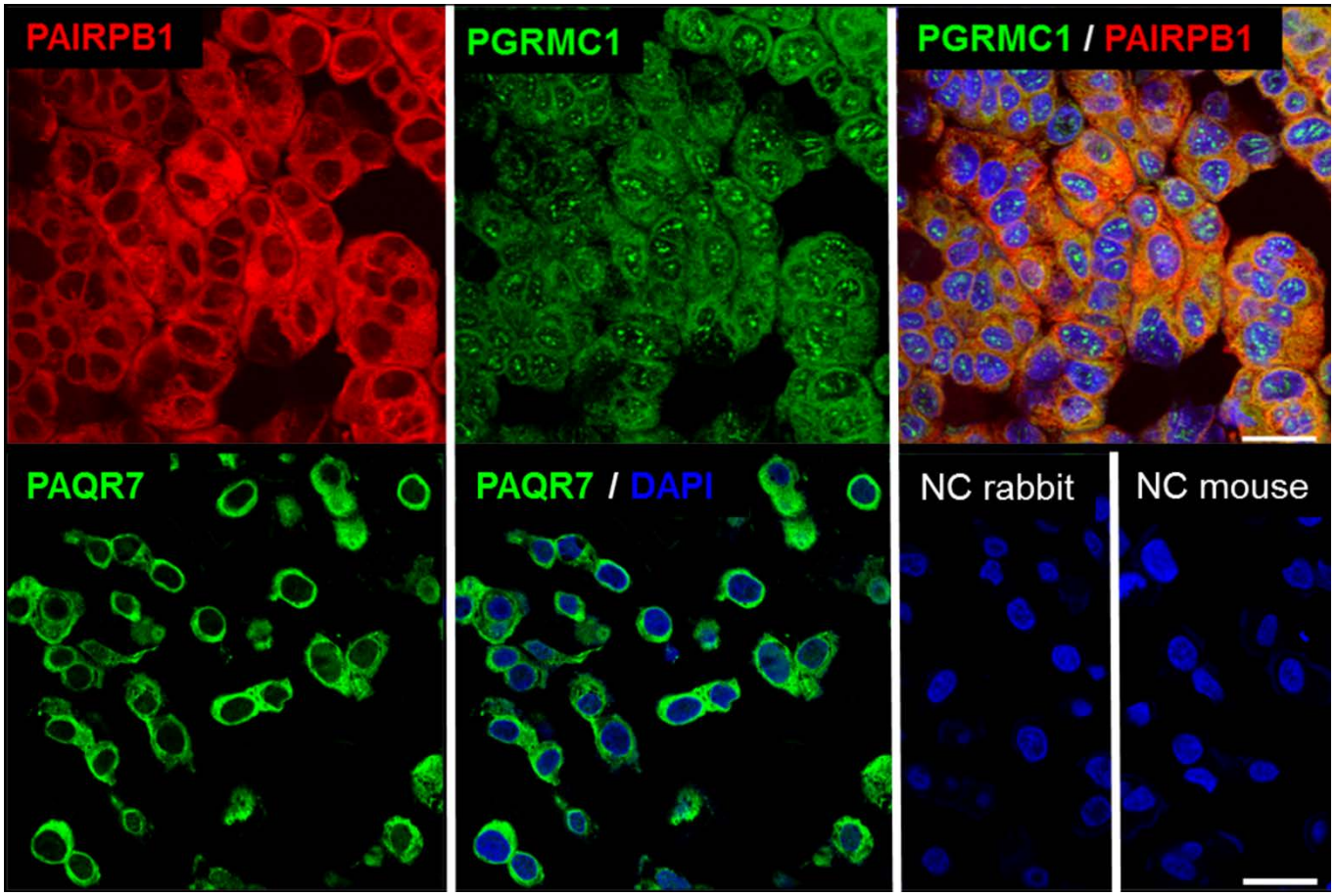
**Supplementary Figure 1.** Human breast cancer cells (MCF-7) served as positive control for establishing the immunohistochemical staining for PGRMC1, PAIRBP1 and PAQR7. For PAIRBP1 only cytoplasmic staining was observed whereby PGRMC1 was present in both, the cytoplasm and the nucleus. PAQR7 featured a distinct perinuclear staining pattern. Negative controls were performed by omitting the primary antibody for each protein of interest. Representative negative controls of MCF-7 sections without any signals are demonstrated for the secondary rabbit (NC rabbit, PGRMC1) and mouse system (NC mouse, PAIRBP1), respectively. Scale bars for all figures 25µm.

**Supplementary Figure 2.** nPGR isoforms A, B, C (**a**), nPGR isoforms A, B, D (**b**) and RPL 27 (**c**) detection in glioma spheroids using RT-PCR. One microgram of total RNA was reverse-transcribed into cDNA utilizing the High Capacity Reverse Transcription Kit (+RT), whereas samples in which no RT enzyme was added (-RT) were included for all RNAs to monitor for the amplification of residual DNA. Human breast tumor cell line T-47D was taken as a positive control for nPGR expression. NC – negative control without template DNA. Expected PCR products of 121bp (a, c) and 148bp (b) were separated on a 2% agarose gel. Lane 1,17 - DNA marker; lane 2,10 – T-47D; lane 3,11 – U-87 MG; 4,12 – U-87 MG 30 ng/mL progesterone; 5,13 – U-87 MG 3 ng/mL progesterone; 6,14 – LN-229; 7,15 – LN-229 30 ng/mL progesterone; 8,16 – LN-229 3 ng/ml progesterone; 9 - NC.

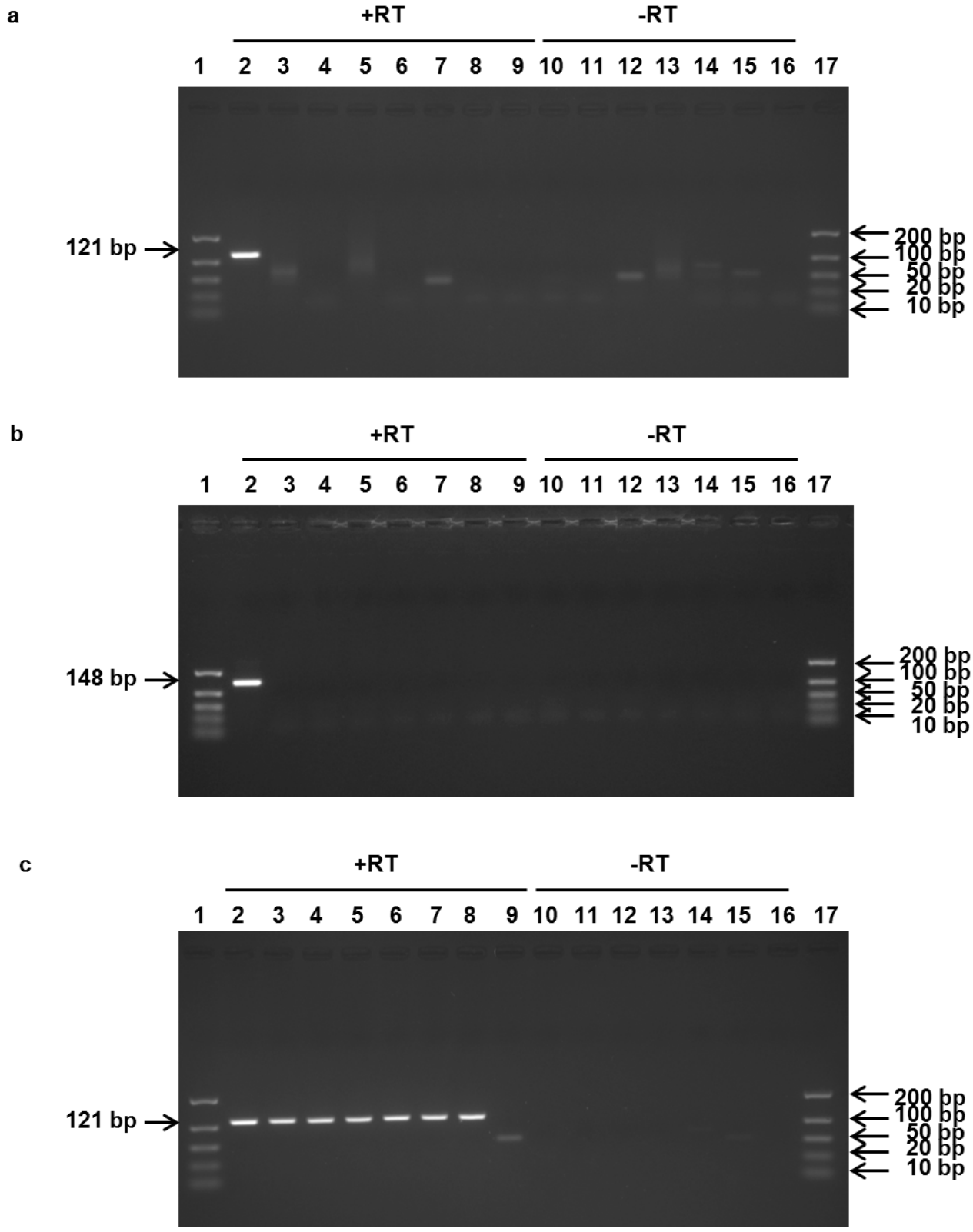
**Supplementary Figure 3.** Human glioma spheroids derived from U-87 MG and LN-229 cells were negative for nPGR detection by immunochemistry, irrespective of the progesterone stimulation. Human breast cancer cells (T-47D) served as positive control for nPGR protein expression (left) and the negative control (primary antibody omitted, right) was without staining signals. Scale bars for spheroids 100 µm, T-47D cells 25µm.

**Supplementary Figure 4.** The STR analysis confirming identity of U-87 MG and LN-229 cell lines. The ATCC has originally stated, that the U-87MG cell line (ATCC# HTB-14) is of male origin (http://www.lgcstandards-atcc.org/products/all/HTB-14.aspx?geo_country=at#generalinformation; acquired 07.01.2016). The gender discrepancy observed in U-87 MG cell line is not unusual. It is possible that the cell line was misidentified in the depositor´s original publication or the Y chromosome got lost during the extensive cultivation process. The cells were obtained in passage 28 from the cell bank (Cell Line Service) and used in passages 35-40.

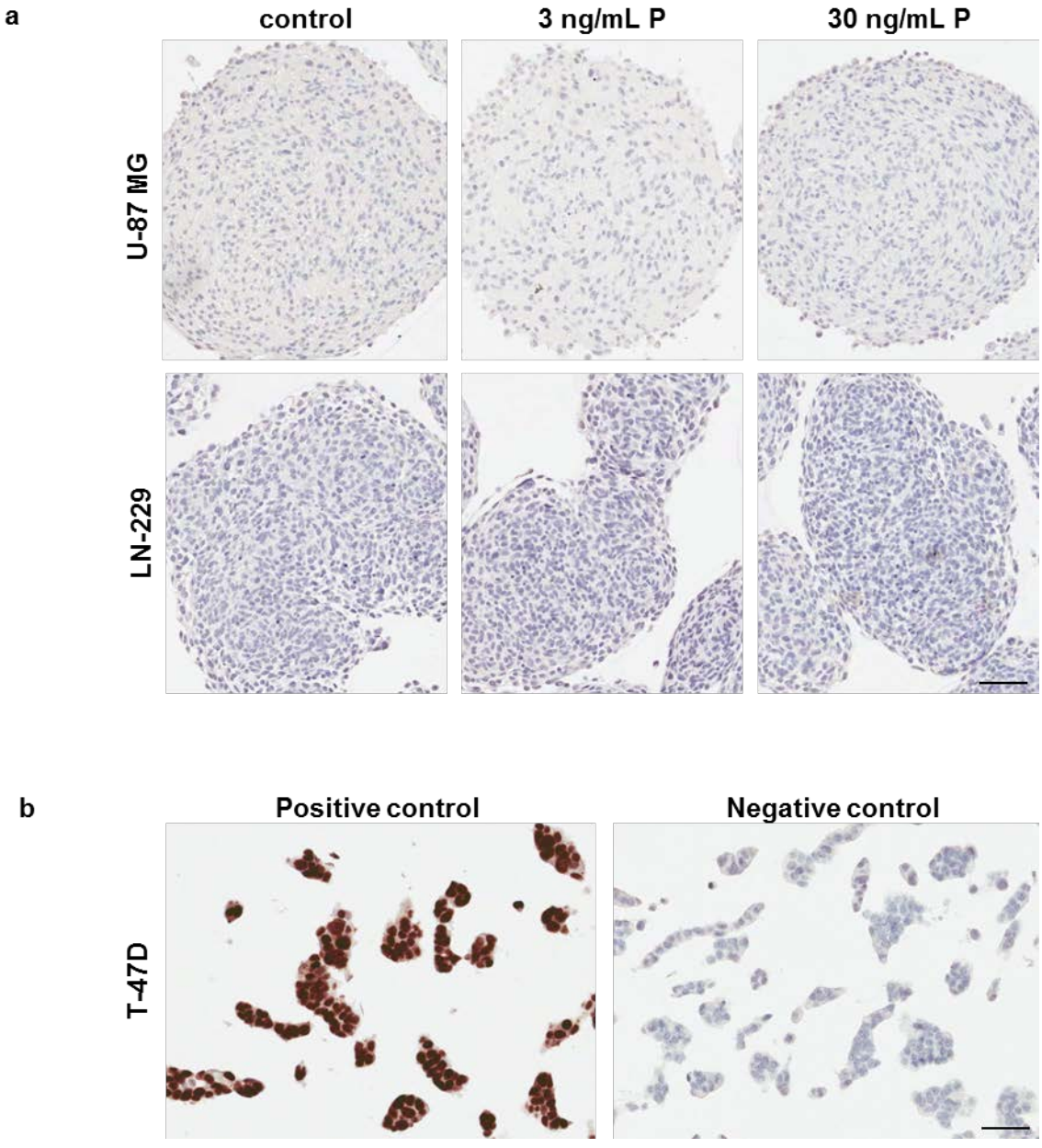
**Supplementary Figure 1**



**Supplementary Figure 2**



**Supplementary Figure 3**



**Supplementary Figure 4**

Cell Culture Facility

| STR-Results for:<br>U87mg | Date:<br>10.12.2015 |
|---|---|

| STR-Locus | your cell line | ATCC |
|---|---|---|
| D3S1358 | 16,17 | |
| TH01 | 9.3 | 9.3 |
| D21S11 | 28, 32.2 | |
| D18S51 | 13,14 | |
| Penta E | 7,14 | |
| D5S818 | 11,12 | 11,12 |
| D13S317 | 8,11 | 8,11 |
| D7S820 | 8,9 | 8,9 |
| D16S539 | 12 | 12 |
| CSF1PO | 10,11 | 10,11 |
| Penta D | 9,14 | |
| Amelogenin | X | X |
| vWA | 15,17 | 15,17 |
| D8S1179 | 10,11 | |
| TPOX | 8 | 8 |
| FGA | 18,24 | |

Kit: Promega, PowerPlex 16HS System (Cat.No. DC2101)

**Cell Culture Facility**

| STR-Results for:<br>**LN-229** | Date:<br>10.12.2015 |
|---|---|

| STR-Locus | your cell line | ATCC |
|---|---|---|
| **D3S1358** | 16,17 | |
| **TH01** | 9.3 | 9.3 |
| **D21S11** | 29,30 | |
| **D18S51** | 13 | |
| **Penta E** | 7,16 | |
| **D5S818** | 11,12 | 11,12 |
| **D13S317** | 10,11 | 10,11 |
| **D7S820** | 8,11 | 8,11 |
| **D16S539** | 12 | 12 |
| **CSF1PO** | 12 | 12 |
| **Penta D** | 10,11 | |
| **Amelogenin** | X | X |
| **vWA** | 16,19 | 16,19 |
| **D8S1179** | 13,14 | |
| **TPOX** | 8 | 8 |
| **FGA** | 23 | |

Kit: Promega, PowerPlex 16HS System (Cat.No. DC2101)

**Supplementary Table 1.** Primers used for RT-qPCR and RT-CR.

| Accession number* | Gene symbol | Gene name | Oligo | Sequence (5' – 3') | Amplicon size (bp) | PCR efficiency (%) | Reference |
|---|---|---|---|---|---|---|---|
| NM_178422.5, XM_011540861.1, XM_005245746.2, XM_011540862.1, XM_005245745.2 | PAQR7 | Progestin and adipoQ receptor family member VII | Forward | CGCTCTTCTGGAAGCCGTACATCTATG | 122 | 0.914 | [30] |
| | | | Reverse | CAGCAGGTGGGTCCAGACATTCAC | | | |
| | | | Probe | FAM-CGCTGCATCAGACCTGGCGCTTCTATTT-BHQ1 | | | |
| NM_006667.4, NM_001282621.1 | PGRMC1 | Progesterone receptor membrane component 1 | Forward | CTGCATGATTTCTGTTTTATCTACCTCTA | 86 | 0.914 | - |
| | | | Reverse | TGTTACTGGACAGCGCTTAATCC | | | |
| | | | Probe | FAM-AGCAAATCTGCAGTGTTCCAAAGACTTTGG-BHQ1 | | | |
| NM_015640.3, NM_001018067.1, NM_001018068.1, NM_001018069.1 | SERBP1 | SERPINE1 mRNA binding protein 1 | Forward | GAGTGAAGAGGCTCATGCTGAA | 80 | 0.945 | - |
| | | | Reverse | CCAGCTGAGACGTTATATCATTTGC | | | |
| | | | Probe | FAM-ATTCGGTTATGGACCATCATTTCCGGA-BHQ1 | | | |
| NM_000988.3 | RPL27 | Ribosomal protein L27 | Forward | TCGCCAAGAGATCAAAGATAA | 121 | 0.932 | [31] |
| | | | Reverse | CTGAAGACATCCTTATTGACG | | | |
| | | | Probe | FAM-ACCTAATGCCCACAAGGTACTCTGT-BHQ1 | | | |
| NM_000926.4, NM_001202474.3, NM_001271161.2 | PGR | Progesterone receptor (isoforms A, B, C) | Forward | CGCGCTCTACCCTGCACTC | 121 | N/A | [35] |
| | | | Reverse | TGAATCCGGCCTCAGGTAGTT | | | |
| NM_000926.4, NM_001202474.3, NM_001271162.1 | PGR | Progesterone receptor (isoforms A, B, D) | Forward | AGCATGTCGCCTTAGAAAGTGC | 148 | N/A | [36] |
| | | | Reverse | TAGGGCTTGGCTTTCATTTG | | | |

FAM = 6-carboxyfluorescein, BHQ1 = Black hole quencher 1
*National Center for Biotechnology Information (NCBI), Entrez Gene (http://www.ncbi.nlm.nih.gov/sites/entrez?db=gene )
N/A = not available

**Supplementary Table 2.** Sources, pre-treatment of the sections and dilutions of the antibodies used in immunohistochemical analysis.

| Antibody | Host and clone | Source | Pre-treatment | Dilution |
|---|---|---|---|---|
| anti-Ki67 | mouse monoclonal 7B11 | Invitrogen, CA, USA | boil in citrate buffer pH 6.0 4x5min | 1:100 |
| anti-nPGR | rabbit monoclonal Y85 | Cell Marque, Rocklin, USA | boil in Tris-EDTA (Dako) pH 9.0 3x5min | 1:50 |
| anti-PAIRBP1 | mouse monoclonal 4G2 | Abcam, Cambridge, UK | boil in Tris-EDTA (Dako) pH 9.0 3x5min | 1:1000 |
| anti-PGRMC1 | rabbit polyclonal | Prestige Antibodies, Sigma-Aldrich, St. Louis MO, USA | boil in citrate buffer pH6.0 3x5min | 1:500 |
| anti-PAQR7 | rabbit polyclonal | Prestige Antibodies, Sigma-Aldrich, St. Louis MO, USA | boil in citrate buffer pH6.0 3x5min | 1:100 |