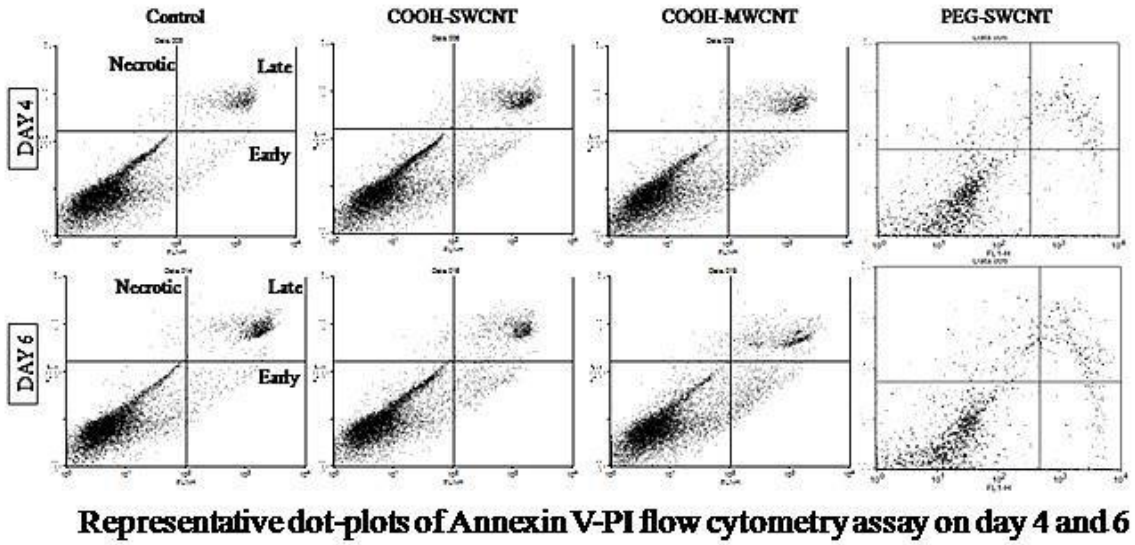
## Supplementary materials

**Table S1** List of canine specific primers and conditions used for RT-PCR analysis

| Target gene | Primer sequence 5'–3' | Annealing temperature (˚C) | Amplicon size (bp) | Reference (year) or NCBI Reference Sequence number |
|---|---|---|---|---|
| ***GAPDH*** | F:CCATCTTCCAGGAGCGAGAT<br>R:TTCTCCATGGTGGTGAAGAC | 60 | 97 | Vieira et al (2010)[1] |
| ***BAX*** | F: TTCCGAGTGGCAGCTGAGATGTTT<br>R: TGCTGGCAAAGTAGAAGAGGGCAA | 60 | 79 | Del Puerto et al (2010)[2] |
| ***CASP3*** | F:TCATTATTCAGGCCTGCCGAGG<br>R:TTCTGACAGGCCATGTCATCCTCA | 60 | 86 | Del Puerto et al (2010)[2] |
| ***CASP8*** | F:GATGCAGATGCGTTGAGT<br>R:ACTGTGGTCCATGCTTTG | 57 | 120 | XM_005640426.2 |
| ***CASP9*** | F:ACGAGACTCACACCAGAGG<br>R:TCGTCCAGAACCATTGTC | 57 | 150 | NM_001031633.1 |
| ***OCN*** | F:GAGGGCAGCGAGGTGGTGAG<br>R:TCAGCCAGCTCGTCACAGTTGG | 62 | 134 | Umehara et al (2012)[3] |
| ***OPN*** | F:CATTGATGGCCGAGGTGATAG<br>R:AAGTGATGTGAAGTCCTCCTC | 60 | 114 | Vieira et al (2010)[1] |
| ***Col IA1*** | F:TAGACACCACCCTCAAGAGC<br>R:CCAGTCGGAGTGGCACAT | 60 | 118 | Vieira et al (2010)[1] |
| ***ACAN*** | F:ATCAACAGTGCTTACCAAGACA<br>R:ATAACCTCACAGCGATAGATCC | 62 | 122 | Vieira et al (2010)[1] |
| ***Col 2A1*** | F:GAAACTCTGCCACCCTGAAT<br>R:GCTCCACCAGTTCTTCTTGG | 62 | 156 | Vieira et al (2010)[1] |
| ***SOX9*** | F: GCTCGCAGTACGACTACACTGAC<br>R:GTTCATGTAGGTGAAGGTGGAG | 60 | 101 | Vieira et al (2010)[1] |
| ***TUBB3*** | F:AGCCAAGTTCTGGGAAGTCA<br>R:CCCACTCTGACCAAAGATGAA | 57 | 238 | Wilcox et al (2011)[4] |
| ***MAP2*** | F:GAAGTTCAGGCCCACTCTCC<br>R:CCTGTTGCTGTGGTTTTCCG | 58 | 107 | XM_005640597.2 |
| ***NES*** | F:GAGAACCAGGAGCAAGTGAA<br>R:TTTCCAGAGGCTTCAGTGTC | 62 | 328 | Valenzuela et al (2008)[5] |
| ***NCAM*** | F:AGGCAGAGCATAGTGAATGC<br>R:AGGCTTCACAGGTCAGAGTG | 60 | 343 | Valenzuela et al (2008)[5] |

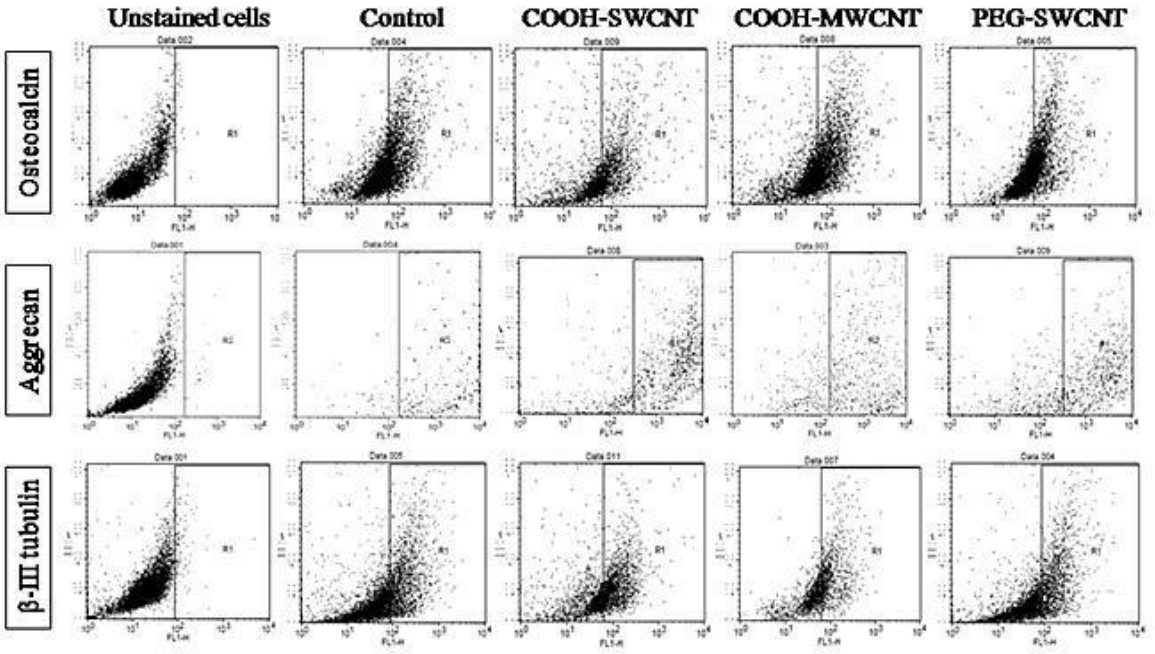
**Abbreviations**: F, forward; R, reverse; RT-PCR, reverse transcriptase–polymerase chain reaction; bp, base pair.

**A**




**Representative dot-plots of Annexin V-PI flow cytometry assay on day 4 and 6**

**B**




**Representative dot-plots of flow cytometry of osteocalcin, aggrecan , β-III tubulin positive cells**

**Figure S1** Representative dot plots of (**A**) Annexin V–PI flow cytometry assay on Days 4 and 6, as well as (**B**) flow cytometry for osteocalcin-, aggrecan-, and β-III tubulin-positive cells.

**Abbreviations:** CNT, carbon nanotube; MWCNT, multiwalled CNT; PEG, polyethylene glycol; PI, propidium iodide; SWCNT, single-walled CNT.

**References:**

1. Vieira NM, Brandalise V, Zucconi E, et al. Isolation, characterization and differentiation potential of canine adipose-derived stem cells. *Cell Transplant*. 2010;19:279–289.

2. Del Puerto HL, Martins AS, Moro L. et al. Caspase-3/-8/-9, Bax and Bcl-2 expression in the cerebellum, lymph nodes and leucocytes of dogs naturally infected with canine distemper virus. *Gent. Mol. Res*. 2010;9:151–161.

3. Umehara K, Iimura T, Sakamoto K, et al. Canine oral mucosal fibroblasts differentiate into osteoblastic cells in response to BMP2. *The Anatomical Rec*. 2012;295:1327–1335.

4. Wilcox JT, Lai JKY, Semple E, et al. Synaptically competent neurons derived from canine embryonic stem cells by lineage selection with EGFand noggin. *Plos One*. 2011;6:e19786.

5. Valenzuela MJ, Dean SK, Sachdev P, et al. Neural precursors from canine skin: a new direction for testing autologous cell replacement in the brain. *Stem Cell Dev*. 2008. 17:1087–1094.