**S4 Table** Studies excluded from the final analysis

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| *Studies that did not use human teeth for analysis:* |
| Mutoh et al. 2007 [1] |
|  |
| *Studies on cell cultures only:* |
| Hahn and Falkler 1992 [2], Casasco et al. 1994 [3], Barkhordar et al. 2002 [4], Lu et al. 2002 [5], Huang et al. 2006 [6], Huang et al. 2008 [7], Killough et al. 2009 [8], Lin et al. 2009 [9], Alongi et al. 2010 [10], Sattari et al. 2010 [11], Wang et al. 2010 [12], Hui et al. 2014 [13] |
|  |
| *No potential biomarker was investigated or the study was off topic:* |
| Maita and Horiuchi 1990 [14], Knutsson et al. 1994 [15], Tasman et al. 1999 [16], Wahlgren et al. 2002 [17], Rowland et al. 2007 [18], Avellan et al. 2008 [19], Rodriguez and Calero 2008 [20], Sattari et al. 2009 [21], Beneng et al. 2010 [22], Abd-Elmeguid et al. 2012 [23], Pereira et al. 2012 [24], Ruparel et al. 2013 [25] |
|  |
| No clear distinction between reversible, irreversible or necrotic pulp: |
| Pulver et al. 1977 [26], Speer et al. 1977 [27], Messelt et al. 1978 [28], Viti et al. 1985 [29], Gregoire and Terrie 1990 [30], Davis et al. 1991 [31], Grossi et al. 1991 [32], McClanahan et al. 1991 [33], Proctor et al. 1991 [34], Rauschenberger et al. 1991 [35], Skaljac-Staudt et al. 1991 [36], Rauschenberger, McClanahan et al. 1994 [37], Goodis and Saeki 1997 [38], Sawa et al. 1998 [39], Barkhordar et al. 1999 [40], Guo et al. 2000 [41], Hahn et al. 2000 [42], Ohnishi et al. 2000 [43], Rodd and Boissonade 2000 [44], Kuntz et al. 2001 [45], Nup et al. 2001 [46], Jukic et al. 2002 [47], Shin et al. 2002 [48], Pimenta et al. 2003 [49], McLachlan et al. 2004 [50], Paakkonen et al. 2005 [51], Dourou et al. 2006 [52], El Karim et al. 2006, [53] Rodd and Boissonade 2006 [54], El Karim et al. 2008 [55], Wang et al. 2008 [56], Warren et al. 2008 [57], Zhang et al. 2008 [58], Vavilova et al. 2009 [59], Cardoso et al. 2010 [60], Korkmaz et al. 2011 [61], Lee et al. 2011 [62], Zhao et al. 2011 [63], Evrosimovska et al. 2012 [64], Petrini et al. 2012 [65], Martin-Gonzalez et al. 2013 [66] |
|  |
|  |
| *Studies rather on histologic features or presence of cells, bacteria or viruses than on quantification of a biomarker:* |
| Pekovic and Fillery 1984 [67], Jacoby et al. 1991 [68], Casasco et al. 1992 [69], Izumi et al. 1995 [70], Wu and Wen 1995 [71], Kobayashi et al. 1996 [72], Marchetti 1996 [73], Zerosi et al. 1999 [74], Mousavi et al. 2006 [75], Pisterna and Siragusa 2007 [76], Manolea et al. 2008 [77], Rosaline et al. 2009 [78], Bruno et al. 2010 [79], Marigo et al. 2010 [80] |
|  |
|  |
| *Review articles, editorials, comments, abstract only or case reports:* |
| Ahlberg 1978 [81], Zelante et al. 1980 [82], D'Souza and Lachman 1989 [83], Jackson et al. 1992 [84], Rauschenberger and Cootauco 1993 [85], Goodis et al. 1994 [86], Matsuo et al. 1994 [87], Rauschenberger, Cootauco et al. 1994 [88], Taniishii et al. 1994 [89], Maclean et al. 1995 [90], Potente et al. 1998 [91], Huang et al. 2000 [92], Lopez-Costa et al. 2000 [93], Chidchuangchai et al. 2003 [94], Higuera 2012 [95], Martin Gonzalez et al. 2012 [96], Martin Jimenez et al. 2012 [97], Sanchez Dominguez 2012 [98], Segura Egea et al. 2012 [99] |

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