

Table SI. Key words used during the database search.

| Database  | Key words                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Hits |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| PubMed    | (‘ <i>Mycobacterium bovis</i> ’[Mesh] OR BCG OR ‘Calmette-Guerin’) AND (Gemcitabine[Mesh] OR Gemcitabine) AND (‘Administration, Intravesical’[Mesh] OR Intravesical OR Intra-vesical) AND (‘Non-Muscle Invasive Bladder Neoplasms’[Mesh] OR ‘non-muscle invasive bladder cancer’ OR NMIBC)                                                                                                                                                                                                  | 129  |
| Cochrane  | #1 MeSH descriptor: [ <i>Mycobacterium bovis</i> ] explode all trees<br>#2 BCG OR ‘Calmette-Guerin’<br>#3 MeSH descriptor: [Gemcitabine] explode all trees<br>#4 Gemcitabine<br>#5 MeSH descriptor: [Administration, Intravesical] explode all trees<br>#6 Intravesical or Intra-vesical<br>#7 MeSH descriptor: [Non-Muscle Invasive Bladder Neoplasms] explode all trees<br>#8 ‘non-muscle invasive bladder cancer’ OR NMIBC<br>#9 (#1 OR #2) AND (#3 OR #4) AND (#5 OR #6) AND (#7 OR #8) | 5    |
| ProQuest  | (BCG OR ‘Calmette-Guerin’) AND Gemcitabine AND (Intravesical OR Intra-vesical) AND ((Non-Muscle Invasive Bladder Cancer) OR (NMIBC))                                                                                                                                                                                                                                                                                                                                                        | 191  |
| EBSCOhost | (BCG OR ‘Calmette-Guerin’) AND Gemcitabine AND (Intravesical OR Intra-vesical) AND [(Non-Muscle Invasive Bladder Cancer) OR (NMIBC)]                                                                                                                                                                                                                                                                                                                                                        | 175  |

Table SII. Validity and applicability assessment of the experimental studies passed the initial screening.

| Study: First author, year of publication (Refs.)                                                                           |                      |                          |                       |                       |                        |
|----------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------|-----------------------|-----------------------|------------------------|
| Validity                                                                                                                   | Porena, 2009<br>(16) | Di Lorenzo,<br>2010 (17) | Bendary, 2011<br>(18) | Gontero, 2013<br>(15) | Prasanna, 2017<br>(19) |
| Was the assignment of patients to treatments randomized?                                                                   | Yes                  | Yes                      | Yes                   | Yes                   | No                     |
| Were the groups similar at the start of the trial?                                                                         | Yes                  | Yes                      | Not reported          | Yes                   | No                     |
| Aside from the allocated treatment, were groups treated equally?                                                           | Yes                  | Yes                      | Yes                   | Yes                   | Yes                    |
| Were all patients who entered the trial accounted for? And were they analyzed in the groups to which they were randomized? | Yes                  | Yes                      | Yes                   | Yes                   | Yes                    |
| Were measures objective or were the patients and clinicians kept 'blind' to which treatment was being received?            | No                   | No                       | Not reported          | Not reported          | Not reported           |
| The reference citations refer to the reference list in the main manuscript.                                                |                      |                          |                       |                       |                        |