**Table S1: Risk of bias questions of the included studies.**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Risk of bias questions** | **Pradhan 2019a** | **Pradhan 2019b** | **Sun 2020** | **Hohoayi 2022** | **Jiang 2013** | **Xu**  **2018** | **Kumar 2019a** | **Kumar 2019b** | **Jiang 2020** | **Shen 2021** | **Ishola 2019** |
| **Experimental materials Transparency** | Was the PSS concentration reported? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | N/A |
| Was PSS delivery method reported? | No | No | Yes | No | No | No | No | No | No | No | N/A |
| Was rational for concentration described? | Yes | Yes | No | No | Yes | Yes | Yes | No | Yes | Yes | N/A |
| Was rational for delivery described? | No | No | No | No | No | No | No | No | No | No | N/A |
| Was the exposure time reported? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | N/A |
| Was rational for the exposure time reported? | Yes | Yes | No | No | No | Yes | Yes | No | No | Yes | N/A |
| Did the researchers measure DNMT or HDAC enzyme quantity, expression, or activity? | Yes | Yes | Yes | Yes | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Were the experimental groups clearly described? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | N/A |
| Were the PSS storage conditions provided? (Temperature, fresh or not) | Yes | Yes | No | No | No | No | No | No | No | No | N/A |
| Was the amount of cDNA and reaction volume reported? | No | No | Yes | N/A | No | No | No | No | Yes | No | N/A |
| Were the primer IDs/miRNA primer IDs provided? | No | No | No | N/A | Yes | No | Yes | Yes | Yes | Yes | N/A |
| Were the primer sequences mentioned? | Yes | Yes | Yes | N/A | Yes | Yes | Yes | Yes | Yes | Yes | N/A |
| Were PSS catalogue numbers provided? Or was the drug purity provided? | No | No | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | N/A |
| Was the rationale for chosen target miRNAs reported? | N/A | N/A | N/A | N/A | Yes | Yes | Yes | Yes | Yes | Yes | N/A |
| Was a control/housekeeping miRNA used? | N/A | N/A | N/A | N/A | Yes | Yes | Yes | Yes | Yes | Yes | N/A |
| Were the methods and algorithms used in the computational analysis clearly described? | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | Yes |
| Were the types of PSS mentioned? | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | Yes |
| Was the rational of choosing HDAC isoforms mentioned? | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | Yes |
| Was the rational from choosing these compounds (or this leaf) mentioned? | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | Yes |
| Was the drug ability of PSS tested? | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | Yes |
| Were the details about the parameters mentioned? | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | Yes |
| **Overall** | **Low** | **Low** | **Low** | **Neutral** | **Low** | **Low** | **Low** | **Low** | **Low** | **Low** | **Low** |
| **Statistical Transparency** | Did the researcher define the statistical analysis method used? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | N/A |
| Was the statistical package or program mentioned? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | N/A |
| Was the p-value used for statistical significance defined? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | N/A |
| Was the number of independent replicates reported? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | N/A |
| **Overall** | **Low** | **Low** | **Low** | **Low** | **Low** | **Low** | **Low** | **Low** | **Low** | **Low** | **N/A** |
| **Reporting Bias** | Was the study design and methodology clearly described? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Were the limitations of the study reported and discussed? | No | No | No | No | No | No | No | No | No | Yes | No |
| Was the qPCR analysis program (source, version) mentioned? | Yes | Yes | Yes | N/A | Yes | No | Yes | Yes | Yes | No | N/A |
| Was the normalization method identified? | Yes | Yes | Yes | N/A | Yes | Yes | Yes | Yes | Yes | Yes | N/A |
| Is WB provided with densitometry data? | Yes | No | Yes | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Is there size marker in WB image? | No | No | No | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Are the replicates visible? | No | No | No | No | No | No | No | No | No | No | N/A |
| Was the conflict of interest reported? | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes |
| Was the software/database used reported? | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | Yes |
| **Overall** | **Low** | **Neutral** | **Low** | **Neutral** | **Neutral** | **Neutral** | **Low** | **Low** | **Low** | **Low** | **Low** |