

The Answer for Q1

- Gelatine is a common stabilizing agent used in a number of live attenuated viral vaccines. It protects the vaccine virus from adverse temperature conditions, preserves vaccine potency and improves the vaccine shelf life. A number of stabilizing agents were evaluated during development of the vaccine. Formulations containing porcine gelatine provided the optimum stability^{1,3}
- FluMist contains a highly processed form of gelatine (porcine, derived from pigs) which is chemically modified and undergoes an extensive purification process, resulting in no detection of porcine DNA. This process is used globally in many essential medicines^{1,2,5}

TABLE I: Porcine DNA Content in Test Samples²

Test Sample	Concentration of Porcine DNA, pg/μL		
	Replicate 1	Replicate 2	Replicate 3
Negative control	No porcine DNA detected	No porcine DNA detected	No porcine DNA detected
Positive control	1.48	1.09	1.29
Lot 810007	No porcine DNA detected	No porcine DNA detected	No porcine DNA detected
Lot 810009	No porcine DNA detected	No porcine DNA detected	No porcine DNA detected

- Porcine gelatine has been deemed as acceptable by many multi-faith groups. British Fatwa Council and British Islamic medical association (BIMA) on 23/09/2022 has issued a letter concludes that the nasal flu vaccine containing porcine gelatine is permissible for use.⁴

1. UK Health Security Agency. Vaccines and porcine gelatine. Department of Health and Social Care, National Health Service. 2015. Updated September 29, 2022. Accessed October 2, 2024. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1107767/UKHSA-12462-vaccines-porcine-gelatine-English.pdf

2. UK Health Security Agency. Guide to the use of human and animal products in vaccines. Department of Health and Social Care, National Health Service. Updated March 13, 2023. Accessed October 2, 2024. <https://www.gov.uk/government/publications/use-of-human-and-animal-products-in-vaccines/guide-to-the-use-of-human-and-animal-products-in-vaccines>

3. Data on File, AstraZeneca. June 2019.

4. British Islamic Medical Association (BIMA) https://britishima.org/get-advice/?advice_topics=vaccinations

5. UKHSA. The national childhood flu immunisation programme 2024 to 2025: information for healthcare practitioners. Accessed August 2024. Available from <https://www.gov.uk/government/publications/flu-vaccination-programme-information-for-healthcare-practitioners>