

Web Table I Key Characteristic of Smallpox and Monkeypox Vaccines

| <i>Name and type</i> | <i>manufacture and country</i> | <i>Licensing status</i> | <i>Recommended for</i> | <i>Remarks</i> |
|--|------------------------------------|--|---|--|
| MVA-BN Third generation; Non-replicating vaccine | Bavarian- Nordic in Denmark | For Smallpox: In US and Canada Full market authorization (2019) In EU: exceptional circumstances (2013) For Monkeypox: approved and full authorization in US and Canada since 2019 | adult population | Very limited supply. Supplied as Imvanex in EU; Ivmamune in Canada) and Jynneos in US (all TM) Empirical data indicate safety in this group and can be used. Off-label use for children can be considered |
| LC-16 Third generation; Minimally replicating vaccine | KM Biologics, Japan | For smallpox: Fully approved in Japan (1975) and special approval in USA 2014 Not approved for monkeypox in any country | Approved for all ages including infants, children and adults | Only vaccine approved for infants and children. Can be given to pregnant and lactating women. |
| ACAM2000 Second generation. Standard Replicating vaccinia-based vaccine developed by cell culture technique. | Developed in France and USA, | Smallpox: Approved in USA For monkeypox; special circumstances approval in USA | Adults in 18- 64 years | Contraindicated in immunodeficient; atopic dermatitis and HIV/AIDS etc. Not recommended for use in pregnant women, infants and children. |
| Vaccinia/Smallpox vaccines First generation | Multiple countries | Not approved for monkeypox in any country. | Wider age groups. | Not recommended for monkeypox. Ensure strategic reserve for health security and preparedness. |

Reference [3,20,36].