Sabir Hossain of Purba Bardhaman (W. Bengal) wins Singapore's SLINGSHOT 2026 award for 'StopBleed' blood-clotting technology

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News

'StopBleed', a powder that rapidly stops bleeding from wounds, developed by young innovator Sabir Hossain (also spelt Sabir Hussain), reported to hail from Badulia village, Khandaghosh block, Purba Bardhaman district, West Bengal, was the overall grand winner of SLINGSHOT 2026, the deep-tech startup competition held in Singapore, and also topped its 'Health and Biomedical' category (results 29 Oct 2026; reported by Bengali dailies on 3 Nov 2026). He developed it under Prof. Devendra Verma of the Department of Biotechnology and Medical Engineering, NIT Rourkela (Odisha); his startup is Miraqules MedSolutions.

Key facts

Inventor	Sabir Hossain – Purba Bardhaman (W. Bengal); research graduate under Prof. Verma, NIT Rourkela; heads Miraqules
Award	SLINGSHOT 2026 – overall grand winner + 'Health & Biomedical' category; by Enterprise Singapore at SWITCH 2026 (27–29 Oct)
Prize pool	SLINGSHOT 2026 total prize pool over S$2.2 million (for all winners); 10th edition

Product	'StopBleed' – nano-biopolymer haemostat; powder and pellet forms; 3-year shelf life at room temperature
Approval	CDSCO – medical-device approval (Feb 2026)
Mentor / firm	Prof. Devendra Verma, NIT Rourkela; Miraqules MedSolutions (NIT Rourkela spin-off)

Background

- How it works: StopBleed uses nanofibrous aggregate technology – it rapidly absorbs blood plasma, traps blood cells in a fibrous mesh, speeds up the body's natural clotting and forms a hydrogel seal over the wound. It is meant for road-accident, gunshot, blast and industrial injuries.
- Science – blood clotting: after an injury, platelets (thrombocytes) gather to form a plug. Clotting factors convert prothrombin into 'thrombin', which turns the soluble protein fibrinogen into insoluble 'fibrin' threads – blood cells trapped in this mesh form the clot. Calcium ions are needed, and vitamin K is needed for the liver to make clotting factors.
- Disorders: haemophilia is an X-linked hereditary bleeding disorder that mostly affects males (haemophilia A – factor VIII deficiency). Heparin is a drug that prevents clotting (anticoagulant).
- Regulation: under the Medical Devices Rules, 2017, devices are classed by risk as A (low), B, C and D (high). CDSCO is under the Union Health Ministry, headed by the Drugs Controller General of India (DCGI). SLINGSHOT is part of the Singapore Week of Innovation and Technology (SWITCH); 2026 was its 10th edition.

Tamil Nadu link: controlling bleeding in the first hours after an accident saves lives. On this principle, Tamil Nadu launched 'Innuyir Kappom – Nammai Kaakkum 48' at Melmaruvathur on 18 Dec 2021: road-accident victims get free emergency treatment in empanelled government and private hospitals during the first 48 hours; the cover, initially ₹1 lakh, was later raised to ₹2 lakh.

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