

BX-412

Cehafex — a two-antibody IV cocktail for Crimean-Congo haemorrhagic fever.

Crimean-Congo haemorrhagic fever is a tick-borne disease endemic across approximately 30 countries, with reported case fatality of 10 to 40 per cent. Transmission from patient blood to healthcare workers is documented. Cehafex is an investigational two-antibody cocktail in the BASTION-1 Phase 1 study.

Indication	Crimean-Congo haemorrhagic fever and post-exposure prophylaxis in healthcare workers and contacts with documented exposure.
Modality	IV two-antibody cocktail (Gc fusion loop + GP38)
Target	CCHFV Gc fusion loop and GP38 accessory glycoprotein
Route and schedule	Single intravenous infusion over 60 minutes; a repeat dose at day 7 is under study if viraemia persists
Development stage	Phase 1, healthy volunteers
Current study	BASTION-1 (NCT-BX0412-01) — randomised, double-blind, placebo-controlled single ascending dose study with an exposure-matched repeat-dose and post-exposure pharmacokinetic cohort
Containment	BSL-4 for live CCHFV work; Risk Group 4 and WHO priority pathogen; federal select-agent controls
Regulatory pathway	FDA Animal Rule, 21 CFR 314 Subpart I

Mechanism of action

Cehafex contains two non-competing fully human IgG1 monoclonal antibodies. The first binds a conserved epitope on the Crimean-Congo haemorrhagic fever virus Gc fusion loop and prevents the pH-dependent membrane-fusion step in the endosome, blocking entry into the cell. The second binds the GP38 accessory glycoprotein and is intended to support Fc-mediated clearance of infected cells and free virion. The components recognise different parts of the virus, so an escape mutation at one epitope should not remove binding by the other; this is a development rationale, not evidence of clinical efficacy. The selected epitopes are conserved across Europe, Asia and Africa clades in the programme's sequence analysis. The observed terminal half-life is 26 days, allowing a single infusion to be studied for settings where repeated inpatient dosing is difficult. BASTION-1 measures exposure, neutralisation and safety in people who have not been infected.

Why this disease

Crimean-Congo haemorrhagic fever is caused by CCHFV, a tick-borne orthonairovirus. Hyalomma ticks maintain the transmission cycle and infection occurs after a tick bite, while slaughtering infected livestock can expose people to infected blood. The virus is endemic across the Balkans, the Middle East, Central Asia and much of Africa, and its recognised range follows the ecology of its vector.

Human-to-human transmission occurs through blood and body fluids. Nosocomial spread is documented and may be the first signal that an outbreak is underway: the clinician treating the index patient becomes a contact. Early illness is non-specific, followed in severe cases by vascular leak, thrombocytopenia, bleeding and multiorgan involvement. Care

therefore requires rapid isolation, laboratory support and disciplined barrier precautions.

Reported case fatality is 10 to 40 per cent, varying with surveillance, access to intensive care and the timing of diagnosis. There is no approved therapeutic, and the evidence for ribavirin remains inconclusive. A long-lived antibody cocktail that can be given once is a practical hypothesis for rural district hospitals, but BASTION-1 is a healthy-volunteer study and cannot establish benefit in infected patients.

The disease at a glance

Feature	Detail	Why it matters
Vector	Hyalomma ticks; livestock can carry infected ticks	Vector and animal contact shape occupational risk.
Geography	Approximately 30 endemic countries across Europe, the Middle East, Central Asia and Africa	Preparedness needs to extend across several health systems.
Exposure	Tick bite, slaughtering livestock and contact with infected blood	Clinical and agricultural work can create the first cluster.
Healthcare spread	Documented nosocomial transmission from patient blood	Dedicated isolation and barrier precautions are essential.
Clinical course	Abrupt febrile illness can progress to vascular leak, bleeding and organ failure	Treatment decisions are made before the full course is visible.
Case fatality	10–40% reported across settings	The range reflects disease severity and access to care.
Prevention	No approved therapeutic; ribavirin evidence remains inconclusive	There is no dependable specific treatment to deploy.
Pathogen status	Risk Group 4; WHO priority pathogen	Live-virus work belongs in maximum containment.

Preclinical and pharmacology package

- Each antibody is tested separately and together for binding, neutralisation and complement or Fc-effector activity against CCHFV glycoprotein variants.
- The combination package measures non-competition, simultaneous occupancy and the ability of one component to retain activity when the other epitope is altered.
- Single-dose pharmacokinetics include distribution, terminal half-life, target exposure and the relationship between 30 mg/kg modelling and the Phase 1 dose bands.
- Neutralisation panels cover Europe, Asia and Africa clades; sequence coverage is used to identify gaps rather than to claim universal protection.
- Non-human-primate studies are planned under maximum containment to define timing and exposure for a treatment model; no animal result establishes clinical efficacy.
- Safety pharmacology includes infusion reactions, hypersensitivity, cytokine release, complement activation, cardiac observations and anti-drug antibody formation.

- Post-exposure work is designed around documented occupational exposure and measures whether the proposed single-visit exposure can be maintained; it is not a substitute for barrier precautions.

Clinical development — BASTION-1

Design	Randomised, double-blind, placebo-controlled single ascending dose study with an exposure-matched repeat-dose and post-exposure pharmacokinetic cohort
Population	Healthy adult volunteers aged 18–60, including an occupational-exposure cohort. No participant is exposed to CCHFV, ticks, patient blood or infectious material at any point.
Sites	Three, United States
Enrolment	38 of 54 as of 31 August 2026
Doses studied	5, 10, 20 and 40 mg/kg as a single intravenous infusion over 60 minutes; repeat-dose cohort under study
Primary objective	Safety and tolerability, including infusion-related and hypersensitivity reactions
Key secondary	Pharmacokinetics and terminal half-life; anti-drug antibody; neutralisation across Europe, Asia and Africa clades; complement and cytokine markers; exposure persistence at day 90
Status	Recruiting; 5–20 mg/kg cohorts complete; 40 mg/kg and repeat-dose cohorts open

Safety observed to date

Most frequent ($\geq 20\%$): infusion-related reaction, headache. Grade ≥ 3 observed in 4 per cent: hypersensitivity (one participant, resolved with corticosteroid). No anti-drug antibody with neutralising capacity detected to day 90.

Warnings and monitoring in the protocol

Investigational agent. Infusion-related reactions occurred in 11 per cent of participants, all grade 1 to 2, and were managed by rate reduction and antihistamine. Observe for one hour after infusion. Not to be used outside a clinical trial or an authorised emergency framework. Administration does not remove the need for barrier precautions: CCHF virus is transmissible from blood and body fluids, and standard care requires contact and droplet precautions with fluid-resistant gowns, double gloves, face and eye protection, and dedicated sharps handling.

Development milestones

Date	Milestone	Status
Q4 2025	Gc and GP38 antibody pair selected; clade panel and manufacturability work opened	Complete
Q1 2026	BASTION-1 IND cleared and first US site activated	Complete
Q2 2026	5 and 10 mg/kg cohorts completed; single-dose half-life model established	Complete
Q3 2026	BASTION-1 enrolment reached 38 of 54 participants	Current
Q4 2026	20 and 40 mg/kg readout, neutralisation panel and immunogenicity analysis	Planned
2027	Maximum-containment treatment-timing study and End-of-Phase-1 meeting	Planned

Regulatory status and pathway

Cehafex is being developed under a cleared US Investigational New Drug application. The intended regulatory route is the FDA Animal Rule (21 CFR 314 Subpart I), because deliberate human infection with CCHFV is not ethical or feasible and outbreaks are too sporadic for a conventional efficacy trial to be the sole basis of development. The package must connect human pharmacokinetics and neutralisation to outcomes in a relevant animal model, while establishing a safety profile for a single infusion. BASTION-1 remains Phase 1 in healthy volunteers; it has not established efficacy, approval or marketing authorisation. Cehafex is not available on prescription.

Biosafety and handling

Live CCHFV work is conducted only in registered BSL-4 maximum-containment facilities with positive-pressure suits, validated decontamination and federal select-agent controls. BASTION-1 does not expose participants to virus, ticks, patient blood or infectious material. The 29 August 2026 public statement, 'Statement on a containment failure' (ref BXRA-PS-2026-08), confirms only that an event occurred, was found by Baxtra's own staff, that work stopped, an independent review is open, and authorities were notified. It declines to name the programme, suite, material, quantities, dates or individuals, and states there is no identified risk outside the facility. Please do not write to ask.

For volunteers in BASTION-1

- No participant is exposed to the target pathogen or to any infectious material at any point.
- Screening includes medical history, physical examination, laboratory tests and an electrocardiogram.
- Participation involves scheduled clinic visits or a residential period, and serial blood sampling.
- A safety follow-up visit takes place approximately 30 days after the last dose.
- Taking part is voluntary; a participant may withdraw at any time, for any reason or none.
- All study procedures and study medicine are provided at no cost, and reasonable travel expenses are reimbursed.
- Suspected side effects can also be reported directly to the FDA through MedWatch.

Important. BX-412 is an investigational medical countermeasure. It has not been approved by any regulatory authority, and its safety and efficacy have not been established. This document is for information only. It is not medical advice, not biosafety guidance, not an offer to sell or a solicitation to buy securities, and not a promise that this programme will succeed. BX-412 is not available on prescription. Requests for expanded access or emergency use in a confirmed or strongly suspected case can be made by a treating physician through the medical information route at baxtra.pages.dev/patients.html.

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