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[Date]

Search Committee
Postdoctoral Fellow — Targeted Drug Delivery of Epigenetic Inhibitors
United Arab Emirates University
Al Ain, United Arab Emirates

Dear Members of the Search Committee,

I am applying for the Postdoctoral Fellow position on targeted drug delivery systems for potent epigenetic inhibitors.

I want to open with the part of my application you will want to test, rather than leave it to the last paragraph. **I am not a synthetic chemist.** My doctorate is in pharmaceutics, and I do not carry out multi-step organic synthesis or structure elucidation by NMR. If the project requires someone to design and build the inhibitors themselves, I am not that person, and I would rather say so now.

What I bring is the other half of the problem in your title, and I have already solved it for this exact class of compound. My doctoral work at the Shanghai Institute of Materia Medica, Chinese Academy of Sciences, was the co-delivery of shikonin and **JQ1 — a BET bromodomain inhibitor** — to triple-negative breast tumours. JQ1 is precisely the kind of potent epigenetic inhibitor your advertisement describes, and it fails in vivo for reasons that are pharmaceutical rather than chemical: poor aqueous solubility, rapid clearance, and exposure of healthy tissue at the concentrations needed for effect. Delivery is the bottleneck between a compound that works in a dish and one that works in an animal.

I designed a mesoporous polydopamine-based Pickering emulsion that carries both agents in a single particle, resolving their incompatible solubility and release requirements. In triple-negative breast cancer models it suppressed primary tumour growth and lung metastasis, and we established the mechanism as apoptosis induction combined with blockade of both epithelial–mesenchymal transition and vasculogenic mimicry — three separate escape routes closed at once. The work is published in *Acta Pharmacologica Sinica* 46(12):3314-3326, where I am **joint first author with equal contribution formally recorded**. I subsequently incorporated the same formulation into a thermosensitive hydrogel placed at the resection site, to address recurrence in the post-surgical window.

Practically, I would arrive able to contribute from the first week on carrier design and optimisation — drug loading, encapsulation efficiency, particle size and polydispersity, surface charge, colloidal stability and controlled release; on physicochemical characterisation by DLS and zeta potential, TEM and SEM, HPLC and UV–Vis, and fluorescence and confocal microscopy; on the biology that shows whether delivery worked, including cellular uptake, viability and apoptosis assays, Western blot, RT-qPCR, ELISA, flow cytometry, immunofluorescence and immunohistochemistry; and on the full in vivo programme, from study design and ethics approval through dosing, monitoring, biodistribution, histopathology and organ toxicity.

That range is the reason I am worth interviewing. A delivery project does not have to change hands between the person who formulates, the person who runs the assays and the person who runs the animal work. I have carried projects across all three.

Your advertisement also names neurological disease. I have not worked on the blood–brain barrier, and I would be learning that literature rather than teaching it. I mention it for the same reason I opened with the synthesis gap: I would rather be trusted on the things I do claim.

I hold seven peer-reviewed publications attracting 324 citations (h-index 3, Google Scholar, July 2026) and one filed Indian patent (App. No. 202421042057) on a transdermal formulation, which I took from concept through in vitro efficacy and in vivo safety evidence to filing. My doctorate was funded throughout by two competitive international fellowships, the ANSO Young Talent Fellowship and the Belt and Road Government Fellowship. I would welcome the chance to discuss how the delivery side of this project might be built out.

Yours sincerely,

Dr. Dipika Ramdas Kalambhe
Ph.D. Pharmaceutics, Shanghai Institute of Materia Medica, Chinese Academy of Sciences