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REVIEWER'S REPORT

Manuscript No.: IJAR-55622

Title: Key role of EGFR, ErbB2 and PRproteins in gene and protein interactions with Vimentin, FOXC1/2, FAK, and the BRCA1in prevention of triple negative breast cancer

Recommendation:
Accept as it is .....
Accept after minor revision...
Accept after major revision .....
Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality		Good		
Techn. Quality		Good		
Clarity	Excellent			
Significance	Excellent			

Reviewer Name: Dr. Sumathi

Detailed Reviewer's Report

1. **Protein-protein interactions (PPIs) are physical contacts where two or more proteins bind, often transiently, to form complexes, allowing them to work together for crucial cellular functions like catalysis, signaling, and building cellular structures. These interactions, driven by forces like hydrogen bonds, are specific, context-dependent, and essential for life, with their disruption linked to diseases.**
2. **Gene-protein interaction (GPI) describes the critical physical or functional connections between gene products (proteins) and the genes themselves (DNA/RNA), crucial for regulating gene expression, DNA replication, RNA processing, and building cellular machinery, essentially governing how genes are turned on/off and how proteins carry out life's functions, often involving proteins binding DNA or RNA. These interactions form complex networks that control cellular processes and are vital for health and disease.**
3. **The BRCA1 RING domain is a critical N-terminal structural motif in the BRCA1 tumor suppressor protein, characterized by a "Really Interesting New Gene" (RING) finger that binds zinc, enabling it to form a functional E3 ubiquitin ligase complex with the partner protein BARD1, which is vital for DNA repair and preventing**

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cancer. Mutations in this domain often disrupt its ability to attach ubiquitin (a protein tag) to other proteins, impairing BRCA1's tumor-suppressing functions, especially in repairing DNA damage, and increasing cancer risk.

4. **Vimentin is a crucial intermediate filament protein in mesenchymal cells, forming a flexible network that maintains cell shape, organelle positioning (like nucleus, mitochondria), and provides mechanical strength, but it also has dynamic roles in cell migration, immune response, and disease, especially cancer, where its upregulation often signals aggressive tumor growth and metastasis, acting as a key marker epithelial mesenchymal transition (EMT).**
5. **Focal Adhesion Kinase (FAK) is a crucial non-receptor protein tyrosine kinase that acts as a central signaling hub at focal dhesions, the sites where cells connect to the extracellular matrix (ECM). It's vital for regulating cell migration, adhesion, survival, and proliferation by relaying signals from integrins (ECM receptors) and growth factors to control the cytoskeleton, influencing cell movement, shape, and survival. FAK's role is so fundamental that its absence impairs cell movement, and its dysregulation is strongly linked to cancer progression, making it a significant therapeutic target.**
6. **Key words are excellent to understand.**
7. **Significant points are given.**
8. **Summary points must be included.**
9. **References should be in alphabetical order.**
10. **After a small changes good to publish in your journal.**