

Materials Design Analysis Reporting (MDAR) Checklist for Authors

The MDAR framework establishes a minimum set of requirements in transparent reporting applicable to studies in the life sciences (see Statement of Task: [doi:10.31222/osf.io/9sm4x](https://doi.org/10.31222/osf.io/9sm4x)). The MDAR checklist is a tool for authors, editors and others seeking to adopt the MDAR framework for transparent reporting in manuscripts and other outputs. Please refer to the MDAR Elaboration Document for additional context for the MDAR framework.

Materials

Antibodies	Yes	n/a
<p><u>Primary antibodies:</u> mouse monoclonal anti-Ero1α (2G4, 1:1000), anti-β1 Integrin (mouse monoclonal clone E4/C9, kind gift of Dr. Maria Raffaella Zocchi), rabbit anti-anti PDI 1:1000 (kind gift from Prof. I. Braakman, Utrecht, The Netherlands); Rabbit anti-GRP94 1:500 (ADI-SPA-851, lot #08021036, RRID AB_10615790, ENZO Life Sciences, Farmingdale, New York, USA); Rabbit anti-Peroxiredoxin4 1:1000 (10703-1-AP, RRID AB_2168493, Invitrogen Proteintech™, Thermo Fisher Scientific); mouse anti-GAPDH (6C5) 1:2000 (sc32233, lot #I0319, RRID AB_627679, Santa Cruz, Dallas, Texas, USA) and mouse monoclonal anti-β actin 1:2000 (A5441, lot #127M4866v, RRID AB_476744, Sigma, St Louis, MO, USA).</p> <p><u>Secondary antibodies:</u> Alexa Fluor™ 488 Goat anti-Mouse IgG (H+L) A11029, lot #2066710, RRID AB_138404; Alexa Fluor™ 647 Goat anti-Mouse IgG (H+L) A21236, lot #2170302, RRID AB_2535805; Alexa Fluor™ 700 Goat anti-Mouse IgG (H+L) A21036, lot #1906489, RRID AB_1500658; Alexa Fluor™ 488 Goat anti-Rabbit IgG (H+L) A11034, lot #1851447, RRID AB_2576217; Alexa Fluor™ 647 Goat anti-Rabbit IgG (H+L) A21245, lot #2098544, RRID AB_2535813; Alexa Fluor™ 700 Goat anti-Rabbit IgG (H+L) A21038, lot #1875540, RRID AB_1500674).</p>	<p>Section: Materials and Methods Paragraph: Protein Extraction and Western blotting analysis</p>	
Cell materials	Yes	n/a
<p>Cell lines: RWPE-1 (RRID: CVCL_3792) purchased from ATCC LNCaP, LAPC4, DU145 and PC3 (RRID: CVCL_0395, CVCL_4744, CVCL_0105, CVCL_0035) donated by Prof. Zoran Culig (Innsbruck Medical University, Innsbruck, Austria)</p>	<p>Section: Materials and Methods Paragraph: Reagents and Prostate Cell Lines</p>	
Primary cultures:		n/a
Experimental animals	Yes	n/a
Laboratory animals:		n/a
Animal observed in or captured from the field:		n/a
Model organisms:		n/a
Plants and microbes	Yes	n/a
Plants:		n/a
Microbes:		n/a

Human research participants	Yes	n/a
Authority granting ethics approval: Institutional research committee CE-IRCCS San Raffaele under the registry URBBAN	Section: Material and Methods and Footnote Paragraph: Ethical Statement	
Statement confirming informed consent obtained from study participants: Informed consent was taken from all the patients.	Section: Material and Methods and Footnote Paragraph: Primary patient samples, Ethical Statement	
Report on age and sex for all study participants: All participants were male, median age: 63 years (range, 53-73 years)	Section: Material and Methods Paragraph: Primary patient samples	

Design

Study protocol	Yes	n/a
Trial registration number: Registry: URBBAN	Section: Material and Methods and Footnote Paragraph: Ethical Statement	
Laboratory protocol	Yes	n/a
		n/a
Experimental study design (statistics details)	Yes	n/a
State whether and how the following have been done, or if they were not carried out.		
Sample size determination: Not carried out (Sample size was consequent to the number of human PCa specimens and cell lines available)		n/a
Randomisation		n/a
Blinding		n/a
Inclusion/exclusion criteria		n/a
Sample definition and in-laboratory replication	Yes	n/a
State number of times the experiment was replicated in laboratory: Western blot of Ero1 α in non-PCa (nPCa) and PCa primary patient samples (Figure 1A and 1B): n=6 (nPCa) and n=12 (PCa) Western blot of Ero1 α , GRP94 and PRDX4 in prostate cell lines (Figure 1C and 1D): n=4 Western blot of Ero1 α , PDI, PRDX4 and actin in PC3 cells (Figure 1E and 1F): n=3 (PC3 cells sensitive to doxorubicin) and n=4 (doxorubicin resistant PC3 cells) Proliferation assay (Figure 2): n=4 Migration assay (Figure 3A and 3B): n= 3 Migration velocity (Figure 3C and 3D): n=2 Invasion assay (Figure 3E and 3F): n=4 Western Blot images of integrin β 1 and GAPDH in PC3 cells (Figure 4): n= 12	Section: Figure legends Paragraph: Fig.1, Fig.2, Fig.3, Fig.4	

<p>Define whether data describe technical or biological replicates: Western blot of Ero1α in non-PCa (nPCa) and PCa primary patient samples (Figure 1A and 1B): biological replicates</p> <p>Western blot of Ero1α, GRP94 and PRDX4 in prostate cell lines (Figure 1C and 1D): biological replicates</p> <p>Western blot of Ero1α, PDI, PRDX4 and actin in PC3 cells (Figure 1E and 1F): biological replicates</p> <p>Proliferation assay (Figure 2): biological replicates</p> <p>Migration assay (Figure 3A and 3B): biological replicates</p> <p>Migration velocity (Figure 3C and 3D): biological replicates</p> <p>Invasion assay (Figure 3E and 3F): biological replicates</p> <p>Western Blot images of integrin β1 and GAPDH in PC3 cells (Figure 4): biological replicates</p>	<p>Section: Figure legends Paragraph: Fig.1, Fig.2, Fig.3, Fig.4</p>	
<p>Ethics</p>		
<p>Studies involving humans: Authority granting ethics approval: Institutional research committee CE-IRCCS San Raffaele under the registry URBBAN</p>	<p>Yes Section: Material and Methods and Footnote Paragraph: Ethical Statement</p>	<p>n/a</p>
<p>Studies involving experimental animals:</p>		<p>n/a</p>
<p>Studies involving specimen and field samples: Authority approving study: Institutional research committee CE-IRCCS San Raffaele under the registry URBBAN</p>	<p>Section: Material and Methods and Footnote Paragraph: Ethical Statement</p>	
<p>Dual Use Research of Concern (DURC)</p>		
	<p>Yes</p>	<p>n/a</p>

Analysis

Attrition	Yes	n/a
Exclusion of samples or data points from the analysis: No samples or data points were excluded		n/a
Statistics	Yes	n/a
Statistical tests used: Shapiro-Wilk normality Test Welch's t-test, Mann-Whitney test and T-test Non-linear regression	Section: Materials and Methods Paragraph: Statistical analysis	
Data Availability	Yes	n/a
Datasets available from the corresponding author on reasonable request	Section: Footnote Paragraph: Data Availability Statement	
There are no data publicly available		n/a
Publicly available data reused: cBioPortal Genomic Data Commons Data Portal Gene Expression Omnibus	Section: Materials and Methods Paragraph: Bioinformatic analysis, Table 1, References	
Code Availability	Yes	n/a
For all newly generated code and software essential for replicating the main findings of the study:		
State whether the code or software is available.		n/a
If code is publicly available, provide accession number in repository, or DOI or URL.		n/a

Reporting

Adherence to community standards	Yes	n/a
MDAR framework recommends adoption of discipline-specific guidelines, established and endorsed through community initiatives. Journals have their own policy about requiring specific guidelines and recommendations to complement MDAR.		
State if relevant guidelines (eg., ICMJE, MIBBI, ARRIVE) have been followed, and whether a checklist (eg., CONSORT, PRISMA, ARRIVE) is provided with the manuscript.	ICMJE guidelines were followed, as the journal follows ICMJE recommendations for publication.	

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