5 Steps to writing your abstract

An **abstract** is a:
*"… brief summary of a research article, thesis, review, conference proceeding or any in-depth analysis … and is often used to help the reader quickly ascertain the **paper's purpose**."*

Wikipedia

An abstract is a necessary component of your manuscript submission and **it needs to be good** for the following reasons:

- It is the second most likely part, after your title, to be read by an onlooker. Statistics suggest that 90% of people searching online won't read beyond your abstract (and even more didn't get past the title).
- It is the only part of a paper that is published in conference proceedings
- It can be the only document sent to a potential (peer) reviewer
- It is frequently the only part of a paper revealed by a search engine and so needs to accurately summarize the paper and engage and attract further reading.

A good abstract **introduces, informs** and **attracts** people to your work.

General guidance for writing a scientific abstract

You may find it helpful to look at the advice given here about how to structure an abstract
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3136027/

A good scientific abstract will tend to adhere to this format:

	CONTENT	HOW MUCH?
1	**CONTEXT** What is the **research area**?	1 – 2 sentences
2	**AIM** What is the **research question** and/or how does the specific study (aim) relate to the research area?	1 – 2 sentences
3	**METHOD** **Methodology**. Indicate **key techniques** used	1 – 2 sentences
4	**RESULTS** **Major finding/s** or trends. **Key qualitative results only** and link to research question	3 – 5 sentences
5	**CONCLUSION** **Summary** of the results and the **implications** of the findings	1 – 2 sentences

Look at these two examples of published *IJP* abstracts:

Look at the abstracts below. Highlight or underline (using different coloured highlighters/pens) the components of a well constructed abstract, listed on the right.	component	✓
Phospholipid-based pyrazinamide spray-dried inhalable powders for treating tuberculosis *IJP* Volume 506, Issues 1–2, 15 June 2016, Pages 174–183 **Abstract** Sterilization of necrotic granulomas containing *Mycobacterium tuberculosis* is difficult by oral and parenteral drug delivery of antitubercular drugs. Pulmonary delivery of these drugs should increase the concentration of drug in the granulomas and, thereby, improve the sterilization. The current study aimed to develop spray-dried (SD) powders composed of pyrazinamide, 1,2-dipalmitoyl-*sn*-glycero-3-phosphatidylcholine (DPPC), 1,2-distearoyl-*sn*-glycero-3-phosphoethanolamine *N*-(carbonyl-methoxy polyethylene glycol-2000) (DSPE-PEG2k) and l-leucine to improve drug delivery to the deeper lung. Pyrazinamide SD powders with varying amounts of DPPC (5, 15 and 25% w/w) were produced using a BUCHI B-290 Mini Spray-Dryer. The powders were characterized physicochemically and for their aerosol dispersion performance using a Next Generation Impactor (NGI). All the SD powders had a narrow particle size distribution (1.29–4.26 μm) with low residual moisture (<2%). Solid state characterization confirmed that the α-polymorphic crystalline pyrazinamide transformed into the γ-polymorphic form during spray-drying. SD pyrazinamide ($PDDL_0$) without excipients showed very poor aerosolization with a fine particle fraction (FPF%) of 8.5 ± 1.0%. However, the SD powder with 25% w/w DPPC ($PDDL_3$) exhibited the best aerosolization with a FPF of 73.2 ± 4.0%. Incorporating high amounts of DPPC improved aerosolization of SD powders; however further evaluation of the developed inhalation powders is necessary to determine their therapeutic potential for treating pulmonary tuberculosis.	Context general Link article to context Aim Methods / techniques Qualitative results Conclusion / implications	
Poloxamer-based solid dispersions for oral delivery of docetaxel: Differential effects of F68 and P85 on oral docetaxel bioavailability *IJP* Volume 507, Issues 1–2, 30 June 2016, Pages 102–108 **Abstract** Development of an oral docetaxel formulation has been hindered mainly due to its poor solubility and oral bioavailability. The aim of this study was to develop poloxamer F68/P85-based solid dispersions (SDs) for the oral delivery of docetaxel and investigate their *in vivo* pharmacokinetic impacts on the systemic absorption of docetaxel given orally, in comparison with a SD based on F68 alone. The F68 and/or P85-based docetaxel SDs were prepared with varying the contents of poloxamers and then evaluated in terms of morphology, crystallinity, solubility, dissolution, permeation across rat intestinal segments, and oral pharmacokinetics in rats. As a result, the SDs successfully changed the crystalline properties of docetaxel and enhanced the drug solubility and dissolution. The SD prepared with F68 alone significantly enhanced the dissolution but not intestinal permeation of docetaxel, leading to only limited enhancement of oral bioavailability (1.39-fold increase). Notably, however, the F68/P85-based SD significantly enhanced both the dissolution and intestinal permeation of docetaxel, achieving a markedly improved oral bioavailability (2.97-fold increase). Therefore, the present results suggest that the intestinal permeation factor should be taken into account when designing SD formulations for the oral delivery of BCS class IV drugs including docetaxel, and that P85 could serve as a potential formulation excipient for enhancing the intestinal permeation of docetaxel.	Context general Link article to context Aim Methods / techniques Qualitative results Conclusion / implications	

Write your abstract only when you have completed your manuscript
It should be a maximum of 200 (to 250) words, although some journals request only 100 words for this purpose.

	5 steps to develop your abstract:	
STEP **1**	**CONTEXT** (1 - 2 sentences) Your opening sentences introduce and draw in potentially interested readers. Make the **research area** of your manuscript clear... set the scene	
STEP **2**	**AIM** (1 - 2 sentences) What is **your research question** and how does your specific study (aim) relate to STEP 1?	
STEP **3**	**METHOD** (1-2 sentences) Describe the basic **methodology** Indicate **key techniques** used (without going into excessive detail).	
STEP **4**	**RESULTS** (3 – 5 sentences) Describe the **major finding/s** or trends. Include **key results only** (not all results)**.** Link to research question in STEP 2.	
STEP **5**	**CONCLUSION** (1 – 2 sentences) **Summarize** your interpretation of the results and the **implications** of the findings in the light of current research data available (potential impact).	

NOTE: Do **not** include references or diagrams/figures/tables in the abstract.