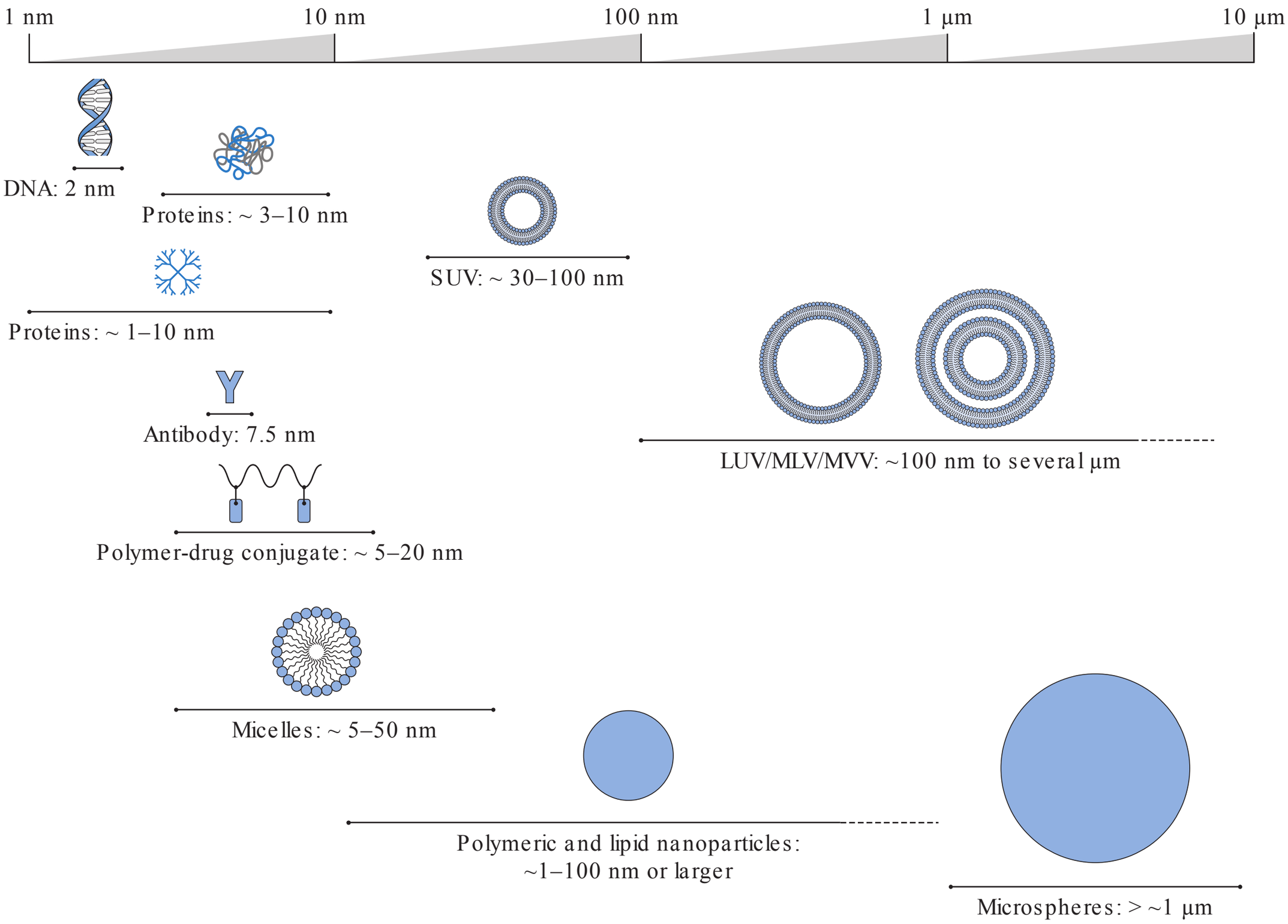

Fig. 45.1 • Approximate size range of various nanomedicines.

Table 45.1 Examples of licensed products that can be considered as nanomedicines

Product	Drug	Type of system	Attributes offered by the nanotechnology
Abraxane®	Paclitaxel	Nanoparticles	These albumin-bound nanoparticles increase the delivery of paclitaxel by overcoming the low solubility of paclitaxel and improving tumour cell drug delivery.
Caelyx®/ Doxil®	Doxorubicin	Liposomes	This formulation contains PEGylated liposomes which can increase systemic circulation times and enhance delivery to tumour sites.
Emend®	Aprepitant	Nanoparticles	These nanoparticles are prepared by a wet milling method and increase drug solubility and bioavailability.
Mepact®	Mifamurtide	Liposomes	Entrapping the drug within liposomes facilitates drug delivery and activation of macrophages.
Myocet®	Doxorubicin	Liposomes	Incorporation of doxorubicin into liposomes increases tumour tissue distribution and reduces cardiac toxicity.
Pegasys®	Interferon 2a	Polymer-protein conjugate	Pegylation improves the stability of the protein.
Rapamune®	sirolimus	Nanoparticles	The formulation of a nanodispersion stabilized with poloxamer offers increased stability and bioavailability.
Zevalin®	Ibritumomab tiuxetan	Antibody-conjugate	Conjugation of a radio-isotope to the antibody promotes targeting and destruction of B-cells.