

	Streptokinase	Anistreplase (APSAC)	Urokinase	Tissue Plasminogen Activators (t - PA) Alteplase
MOA	<ol style="list-style-type: none"> 1. protein produced by B-hemolytic streptococci 2. Acts indirectly by forming plasminogen-streptokinase complex which converts inactive plasminogen into active plasmin. 	<ul style="list-style-type: none"> -Anisoylated plasminogen-streptokinase activator complex - Is a complex of purified human plasminogen + bacterial streptokinase that rendered inactive by introducing anisoyl group at its active site. - It is a <i>prodrug, de-acylated in circulation into the active plasminogen-streptokinase complex (acts directly to convert plasminogen into plasmin).</i> 	<ul style="list-style-type: none"> -Human enzyme synthesized by the kidney, obtained from either urine or cultures of human embryonic kidney cells. - acts directly converting plasminogen to active plasmin. 	<ul style="list-style-type: none"> Alteplase (Single Chain). - Reteplase (Deleted Form). - Tenecteplase • All are recombinant human t - PA. • Synthesis by recombinant DNA technology.
PK	<ul style="list-style-type: none"> -It is the least expensive. - T 1/2 = half an hour. - I.V. Infusion 		<ul style="list-style-type: none"> -given by intravenous infusion - Dose 300,000U over 10 min then 300,000U/h for 12h. 	<ul style="list-style-type: none"> Alteplase very short half life (5 min.) (60 mg i.v. bolus + 40 mg infusion over 2 h). Reteplase (two I.V. bolus of 10 U).
Side effects	<ol style="list-style-type: none"> 1. Bleeding due to <i>activation of circulating plasminogen</i> 2. Hypersensitivity due to antigenicity (rash, fever, allergic reaction). 3. Hypotension. 4. not used in patients with streptococcal infections (have antistreptococcal antibodies and may develop fever, allergic reactions and resistance upon treatment with streptokinase). 	<p>Advantages</p> <p>Longer duration of action (T1/2 is 70-120 min).</p> <p>Given as a bolus I.V. (30 U over 3 - 5 min.).</p> <p>Disadvantages (less than streptokinase alone).</p> <ol style="list-style-type: none"> 1. Expensive. 2. Antigenic. 3. Allergic reactions. 4. Bleeding due to minimal fibrin specificity 	<p>Disadvantages</p> <ol style="list-style-type: none"> 1. Expensive. 2. Systemic lysis. <p>Advantages</p> <ol style="list-style-type: none"> 1. Not antigenic. 2. No Hypotension 	<p>Advantages</p> <ol style="list-style-type: none"> 1. Clot specific (fibrin specific). • activate fibrin-bound plasminogen rather than free plasminogen in blood. 2. Limited systemic fibrinolysis. 3. Non-antigenic (Can be used in patients with antistreptococcal antibodies).

Note :-Previous administration of SK is a contraindication, because of the risk of anaphylaxis.

-1 year at least must elapse before its use again (*its action is blocked by antistreptococcal antibodies that appears 4 days or more after the first dose*).