			50	
	Rosatin <sup>°</sup>		of serum transaminases and any serum transaminase elevation exceeding 3x the upper limit of normal (ULN).	
	Rosuvastatin Film coated tablets 5, 10, 20	) & 40 mg	<ul> <li>In patients with severe renal impairment (creatinine clearance &lt;30 ml/min).</li> <li>In patients with myopathy.</li> <li>In patients receiving concomitant cyclosporine.</li> <li>During pregnancy and lactation and in women of childbearing potential not using</li> </ul>	
	Presentation: Rosatin® 5: Each Film coated tab in packs of 30 tablets. Rosatin® 10: Each Film coated tab	let contains 5mg Rosuvastatin (as Calcium Salt) let contains 10mg Rosuvastatin (as Calcium Salt)	appropriate contraceptive measures. - The 40 mg dose is contraindicated in patients with pre-disposing factors for myo- pathy/rhabdomyolysis. Such factors include: • Moderate renal impairment (creatinine clearance < 60 ml/min).	
	n packs of 30 tablets. <b>Rosatin® 20:</b> Each Film coated tab in packs of 30 tablets. <b>Rosatin® 40:</b> Each Film coated tab in action of 20 or behavior.	let contains 20mg Rosuvastatin (as Calcium Salt) let contains 40mg Rosuvastatin (as Calcium Salt)	Hypothyroidism.     Personal or family history of hereditary muscular disorders.     Previous history of muscular toxicity with another HMG-CoA reductase inhibitor or fibrate.     Aucher Leburg	
	Excipients: Lactose monohydrate, Crospovidone, Magnesium Stearate Pharmaceutical form: Film costed tablet for and uro	Calcium Carbonate, Microcrystalline Cellulose, , Opadry II White, Red Iron Oxide.	Action a duse.     Situations where an increase in plasma levels may occur.     Asian patients.     concomitant use of fibrates.     Warning and Percentions for use:	
	Pharmacotherapeutic group: HMG-CoA reductase inhibitors, ATC Therapeutic Indications: Rosatin® is indicated for the	code: C10A A07	Renal effects: Proteinuria, detected by dipstick testing and mostly tubular in ori- gin, has been observed in patients treated with higher doses of rosuvastatin, in particular 40 mg, where it was transient or intermittent in most cases. Proteinuria has not here shown to be negritized active or progressive renal disease. The renor-	
	Treatment of hypercholesterolu     Adults, adolescents and children a     terolemia (type IIa including hetero     dyslipidemia (type IIb) as an adjunc	emia: 	ting rate for serious renal events in post-marketing use is higher at the 40 mg dose. An assessment of renal function should be considered during routine follow-up of patients treated with a dose of 40 mg. Skeletal muscle effects: Effects on skeletal muscle e.g. myalqia, myopathy and,	
2100	pharmacological treatments (e.g. e - Homozygous familial hypercholes lowering treatments (e.g. LDL aphe Prevention of Cardiovascular E	<pre>cercise, weight reduction) is inadequate. terolemia as an adjunct to diet and other lipid resis) or if such treatments are not appropriate. vents:</pre>	rarely, rhabdomyolysis have been reported in rosuvastatin-treated patients with all doses and in particular with doses> 20 mg. Very rare cases of rhabdomyolysis have been reported with the use of Ezetimibie in combination with HMG-CoA reductase inhibitors. A pharmacodynamics interaction cannot be excluded and caution should	
0	Prevention of major cardiovascular e risk for a first cardiovascular event, a Posology and method of admir Before treatment with Rosatino, t lesterel leuveng digt thet should	vents in patients who are estimated to have a high is an adjunct to correction of other risk factors. <b>histration:</b> the patient should be placed on a standard cho- cortinue division tractaret. The dress chould be	be exercised with their combined use. As with other HMG-CoA reductase inhibitors, the reporting rate for rhabdomyolysis associated with rosuvastatin in post-marketing use is higher at the 40 mg dose. <u>Creatine Kinase measurement</u> : Creatine Kinase (CK) should not be measured fol- lation chromes more for the presence of a plavible character our eff. CK in the presence of a plavible character our eff. CK in the presence of a plavible character our eff. CK in the presence of a plavible character our eff. CK in the presence of the presence of a plavible character our eff. CK in the presence of the presence of the presence of a plavible character our eff. CK in the presence of the presence of the presence of the presence our eff. CK in the presence of the presence of the presence of the presence our eff. CK in the presence of the presence our eff. CK in the presence of the presence of the presence of the presence our eff. CK in the presence our eff. CK in the presence of the presence our eff. CK in the presence our eff. CK in the presence our eff. CK in the presence our eff. CK in the presence our eff. CK in the presence our eff. CK in the presence our eff. CK in the presence our eff. CK in the presence our eff. CK in the presence our eff. CK in the presence our eff. CK in the presence our eff. CK in the presence our eff. CK in the presence our eff. CK in the presence our eff. CK in the presence our eff. CK in the presence our eff. CK in the presence our eff. CK in the pre	
	individualized according to the goa consensus guidelines. Rosatin® may be given at any time Treatment of hypercholesterol	<pre>continue during treatment: the dose should be l of therapy and patient response, using current e of day, with or without food. emia:</pre>	comparentiations exercise on an interpretation of the result. If CK levels are significantly ele- vated at baseline (>5xULN) a confirmatory test should be carried out within 5 -7 days. If the repeated test confirms a baseline CK >5xULN, treatment should not be started. Before treatment	
	The recommended starting dose of daily in both statin naive and patie inhibitor. The choice of start dose s cholesterol level and future cardiov	Rosatin <sup>®</sup> is 5 mg or 10 mg orally given once nts switched from another HMG-CoA reductase hould take into account the individual patient's ascular risk as well as the potential risk for ad-	Rosuvastatin, as with other HMG-CoA reductase inhibitors, should be prescribed with caution in patients with pre-disposing factors for myopathy/rhabdomyolysis. Such factors include: Renal impairment, Hypothyroidism, Personal or family history of hereditary muscular disorders, Previous history of muscular toxicity with another	
	verse reactions. A dose adjustment 1 if necessary. In light of the increas 40 mg dose compared to lower do mg should only be considered in pa	to the next dose level can be made after 4 weeks, ed reporting rate of adverse reactions with the ses, a final titration to the maximum dose of 40 atients with severe hypercholesterolemia at high	HMG-CoA reductase inhibitor or fibrate, Alcohol abuse, Age>70 years, Situations where an increase in plasma levels may occur. Concomitant use of fibrates. In such patients the risk of treatment should be considered in relation to possible benefit and clinical monitoring is recommended, If CK levels are significantly eleva-	
) •	not achieve their treatment goal or performed. Specialist supervision is <b>Prevention of Cardiovascular</b>	20 mg, and in whom routine follow-up will be recommended when the 40 mg dose is initiated. <u>vents:</u> <u>luction</u> study, the dose used was 20 mg daily.	ted at baseline (>xxxx)(x) treatment should not be started, Whilst on treatment. Patients should be asked to report inexplicable muscle pain, weakness or cramps immediately, particularly if associated with malaise or fever. CK levels should be massured in those patients Thorary should be discontinued if CK levels are markedly	Â
· •	Pediatric population; Pediatric use s Children and adolescents 10 to 17 and girls who are at least 1 year p heterozygous familial hypercholeste	hould only be carried out by specialists. <u>years of age (boys Tanner Stage II and above,</u> <u>ost-menarche)</u> ; In children and adolescents with rolemia the usual starting dose of <b>Rosatin</b> <sup>®</sup> is 5	elevated (>5xULN) or if muscular symptoms are severe and cause daily discomfort (even if CK levels are 5xULN). If symptoms resolve and CK levels return to normal, then consideration should be given to re-introducing rosuvastatin or an alternative HMG-CA0 reductase inhibitor at the lowest dose with close monitoring.	Ŷ
	mg dailý. The usual dosé range is 5- conducted according to the individu as recommended by the pediatric tr cents should be placed on standard	20 mg orally given once ďaily. Titration should be lal response and tolerability in pediatric patients, eatment recommendations. Children and adoles- cholesterol-lowering diet before <b>Rosatin</b> <sup>®</sup> treat-	Routine monitoring of CK levels in asymptomatic patients is not warranted. There have been very rare reports of an immune-mediated necrotising myopathy (INNM) during or after treatment with statins, including rosuvastatin. IMNM is clinically characterised by proximal muscle weakness and elevated serum creatine	
	ment initiation; this diet should be and efficacy of doses greater than 2 The 40 mg tablet is not suitable for <u>Children younger than 10 years</u> : E	e continued during <b>Rosatin®</b> treatment. Safety 20 mg have not been studied in this population. use in pediatric patients. xperience in children younger than 10 years is	kinase, which persist despite discontinuation of statin treatment. In clinical trials there was no evidence of increased skeletal muscle effects in the small number of patients dosed with rosuvastatin and concomitant therapy. Howe- ver, an increase in the incidence of myositis and myopathy has been seen in patients	
	limited to a small number of childr zygous familial hypercholesterolem	en (aged between 8 and 10 years) with homo- ia. Therefore, <b>Rosatin®</b> is not recommended to	receiving other HMG-CoA reductase inhibitors together with fibric acid derivatives including Gemfibrozil, cyclosporine, nicotinic acid, azole antifungals, protease inhi-	

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lung disease, statin therapy should be discontinued. Diabetes Mellitus: As with other HMG-CoA reductase inhibitors, increases in HbA1c and serum glucose levels have been observed in patients treated with rosuvastatin., and in some instances these increases may exceed the threshold for the diagnosis of and is some instances these lacent observed in theshold for the diagnosis of diabetes mellitus primarily in patients already at high risk for developing diabetes. **Pediatric population:** The evaluation of linear growth (height), weight, BMI (body mass index), and secondary characteristics of sexual maturation by Tamer staging in pe-diatric patients 10 to 17 years of age taking Rosswastatin is limited to a one-year period. After 52 weeks of study treatment, no effect on growth, weight, BMI or sexual matur-ration was detected. The clinical trial experience in children and adolescent patients is limited and the long-term effects of Rosswastatin (s1) and adolescent patients is limited and the long-term effects of Rosswastatin (s1) area) on puberty are unknown. In a clinical trial of children and adolescents receiving Rosswastatin for 52 weeks (elevations-1 VoLUN and muscle symptoms following exercise or increased physical ac-tivity were observed more frequently compared to observations in clinical trials in adults. **Effects on ability to drive and use machines**: Studies to determine the effect of rosswastatin on the ability to drive and use machines have not been conducted. However, based on its Pharmacodynamic properties, rosswastatin is unlikely to affect this ability. When driving vehicles or operating machines, it should be taken into account that dizziness may occur during treatment.

account that dizziness may occur during treatment. Use During pregnancy and lactation: Rosuwastatin is contraindicated in pregnancy and lactation. Women of child-bearing potential should use appropriate contraceptive measures. Since cholesterol and other products of cholesterol bicsynthesis are essential for the development of the fetus, the potential risk from inhibition of HMG-CoA reductase outweighs the advantage of treatment during pregnancy. Animal studies provide limited evidence of reproductive toxicity. If a patient becomes pregnant during use of this product, treatment should be discontinued immediately. Rosuvastatin is excre-ted in the milk of rats. There are no data with respect to excretion in milk in humans. **Drug Interactions:** 

Drug Interactions: Effect of co-administered medicinal products on rosuvastatin: Tansporter protein inhibitors, Rosuvastatin is a substrate for certain transporter proteins including the hepatic uptake transporter OATP1B1 and efflux transporter BCRP. Concomitant administration of rosuvastatin with medicinal products that are inhibitors of these transporter proteins may result in increased rosuvastatin plasma concentrations and an increased risk of myopathy. <u>Cyclosporine</u>: During concomitant administration did not affect plasma concentra-tions of cyclosporine. <u>Exetimible</u>: Concomitant use of rosuvastatin and Ezetimible resulted in no change to

tions or cyclosporne. <u>Ezetimibe</u>: Concomitant use of rosuvastatin and Ezetimibe resulted in no change to C<sub>ow</sub> or AUC for either drug. However, a Pharmacodynamic interaction, in terms of adverse effects, between rosuvastatin and Ezetimibe cannot be ruled out.

C<sub>ma</sub> or AUC for either drug. However, a Pharmacodynamic interaction, in terms of adverse effects, between rosswastain and Eretimible cannot be ruled out. Gemfibrozil and other lipid-lowering products: Concomitant use of rosswastain and Gemfibrozil resulted in a 2-fold increase in Rosswastain C<sub>ma</sub> and AUC. Based on data from specific interaction studies no pharmacokinetic relevant interaction with Fenofibrate is expected, however a Pharmacodynamic interaction may occur. Gemfi-brozil, fenofibrate, other finates and lipid lowering doses (> or equal to 1 g/day) of niacin (nicotinic acid) increase the risk of myopathy when given concomitantly with HMO-CoA reductase inhibitors, probably because they can produce myopathy when given alone. The 40 mg dose is contraindicated with concomitant use of a fibrate. These patients should also start with the 5 mg dose. <u>Protease inhibitors</u>. Although the exact mechanism of interaction is unknown, concomitant protease inhibitor is not recommended. In a pharmacokinetic study, co-administration of 20 mg Rosuvastatin and a combination product of two protease inhibitors (400 du) lopinavir /100 mg ritonavir) in healthy volunteers was associated with an approximately lwo-foid and five-foid increase in Rosuvastatin steady-state AUC (0-24) and C<sub>Q</sub> respectively. Therefore, concomitant use of Rosu-vastatin in HIV patients receiving protease inhibitors is not recommended. Antadid: The simultaneous dosing of rosuvastatin with an antacid suspension contai-ning aluminum and magnesium hydroxide resulted in a decrease in Rosuvastatin plasma concentration of approximately 50%. This effect was mitigated when the antacid was dosed 2 hours after rosuvastatin. The clinical relevance of this interac-tion has not been studied.

tion has not been studied.

tion has not been studied. Evolution and evolution and evolution and evolution evolution and evolution and evolution and evolution and a 20% decrease in AUC (0-1) and a 30% decrease in C and a 30% decrease in C and a 30% decrease in a constraint and a studied by evolution and a view studies show that Rosuvastatin is neither an inhibitor nor an inducer of cytochrome P450 isoenzymes. In addition, Rosuvastatin is a poor substrate for these isoenzymes. No clinically relevant interactions have been observed between Rosuvastatin and either fluconzole (an inhibitor of CYP2AG and CYP3A4) or ketoconazole (an inhibitor of CYP2A6 and CYP3A4).

Inhibitor of CTP2A9 and CTP3A4) or ketoconazole (an inhibitor of CTP2A6 and CTP3A4). COncomitant administration of itraconazole (an inhibitor of CTP3A4) and Rosuvas-tatin resulted in a 28% increase in AUC of Rosuvastatin. This small increase is not considered clinically significant. Therefore, drug interactions resulting from cyto-chrome P450-mediated metabolism are not expected.

chrome P490-mediated metabolism are not expected. Interactions requiring rosuvastatin dose adjustments: When it is necessary to co-administer rosuvastatin with other medicinal products known to increase exposure to rosuvastatin, doses of rosuvastatin should be ad-justed. Start with a 5 mg once daily dose of rosuvastatin if the expected increase in exposure (AVC) is approximately 2-fold or higher. The maximum daily dose of rosuvastatin should be adjusted so that the expected rosuvastatin exposure would not likely exceed that of a 40 mg daily dose of rosuvastatin taken without interacting medicinal products.

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extent of interactions in the paediatric population is not known.

## Undesirable effects:

adverse events seen with rosuvastatin are generally mild and transient. In trolled clinical trials, less than 4% of rosuvastatin-treated patients were withdrawn due to adverse events

Common: Diabetes mellitus, headache, dizziness, constipation, nausea, abdominal lgia and asthenia

pain, myalgia and asthenia. Bace: Thromboyropenia, hypersensitivity reactions including angioedema, pancrea-titis, increased hepatic transaminases, pruritus, rash, urticaria, myopathy (including myositis) and ihabdomyolysis. <u>Very rare:</u> Polyneuropathy, memory loss, jaundice, hepatitis, arthralgia, haematuria and gynaecomastia. Not known; Depression, sleep disturbances (including insomnia and nightmares), cough, dyspnoea, diarrhea, stevens-Johnson syndrome, immunemediated necroti-sing myopathy and oedema. As with other HMG-CoA reductase inhibitors, the incidence of adverse drug reac-tions tends to be drose denendent

ns tends to be dose dependent. <u>nal effects: </u>Proteinuria, detected by dipstick testing and mostly tubular in origin,

<u>Renal effects:</u> Proteinuria, detected by dipstick testing and mostly tubular in origin, has been observed in patients treated with rosuvastatin. Shifts in urine protein from none or trace to ++ or more were seen in <1 % of patients at some time during treatment with 10 and 20 mg, and in approximately 3% of patients treated with 40 mg. A minor increase in shift from none or trace to + was observed with the 20 mg dose. In most cases, proteinuria decreases or disappears spontaneously on continued therapy. Review of data from clinical trials and post-marketing experience to date has not identified a causal association between proteinuria and acute or progressive renal disease. Hematuria has been observed in patients treated with rosuvastatin and clinical trial data show that the occurrence is low. <u>Skeletal muscle effects</u>: Effects on skeletal muscle e.g. myalgia, myopathy (inclu-ding myositis) and, rarely, rhabdomyolysis with and without acute renal failure have been reported in rosuvastatin-treated patients with all doses and in particular with dosess-20 mg.

been reported in rosuvaistatin-treated patients with all doses and in particular with doses- 20 mg. A dose-related increase in CK levels has been observed in patients taking Rosuvas-tatin; the majority of cases were mild, asymptomatic and transient. If CK levels are elevated (>SuULN), treatment should be discontinued. Liver effects: As with other HMG-CoA reductase inhibitors, a dose-related increase in transaminases has been observed in a small number of patients taking Rosuvastatin; the majority of cases were mild, asymptomatic and transient. The following adverse events have been reported with some statins: Sexual dysfunction, exceptional cases of interstitial lung disease, especially with long term therapy, the reporting rates for rhabdomyolysis, serious renal events and serious hepatic events (consisting mainly of increased hepatic transaminases) is higher at the 40 mg dose.

higher at the 40 mg dose. <u>Paediatric population</u>: Creatine kinase elevations >10xULN and muscle symptoms following exercise or increased physical activity were observed more frequently in a 52-week clinical trial of children and adolescents compared to adults. In other spects, the safety profile of rosuvastatin was similar in children and adolescents mpared to adults. Overdose

Veroase: ere is no specific treatment in the event of overdose. In the event of overdose, the tient should be treated symptomatically and supportive measures instituted as quired, Liver function and CK levels should be monitored. Hemodialysis is unlikely

## Pharmacodynamic properties

Pharmacodynamic properties Rosatin® (Rosuvastatin) is a selective and competitive inhibitor of HMG-CoA reduc-tase, the rate-limiting enzyme that converts 3-hydroxy-3-methylglutaryl coenzyme A to mevalonate, a precursor for cholesterol. The primary site of action of Rosuvastatin

is the liver, the target organ for cholesterol in Jones of ecotor in observations is the liver, the target organ for cholesterol lowering. Rosuvastatin increases the number of hepatic LDL receptors on the cell-surface, enhancing uptake and catabolism of LDL and it inhibits the hepatic synthesis of VLDL, thereby reducing the total number of VLDL and LDL particles.

(b), thereby reducing the total number of vEDC and EDC particles, aarmacokinetic properties <u>sogrition</u>; Maximum Rosuvastatin plasma concentrations are achieved approxima-ly 5 hours after oral administration. The absolute bioavailability is approximately

Tely 5 hours after oral administration. The absolute bioavailability is approximately 20%. Distribution: Rosuvastatin is taken up extensively by the liver which is the primary site of cholesterol synthesis and LDL-C clearance. The volume of distribution of Rosu-vastatin is approximately 134 L Approximately 90% of Rosuvastatin is bound to plasma proteins, mainly to albumin. Metabolism Rosuvastatin undergoes limited metabolism (approximately 10%). In thito metabolism studies using human hepatocytes indicate that Rosuvastatin is a poor substrate for cytochrome P450-based metabolism. CYP2C9 was the principal isoenzyme involved, with 2C19, 3A4 and 206 involved to a lesser extent. The main metabolites identified are the N-desmethyl and lactone metabolites. The N-des-methyl metabolite is approximately 50% less active than Rosuvastatin whereas the lactone form is considered clinically inactive. Rosuvastatin accounts for greater than 90% of the circulating HMG-CAA reductase inhibitor active substance) and the remaining part is excreted in urine. Approximately 5% is excreted unchanged in the faces (consisting of absorbed and non-absorbed active substance) and the remaining part is excreted in urine. Approximately 5% is excreted unchanged in the faces in thircase at higher doses. The geometric mean plasma clearance is approximately S0 litershour (coefficient of variation 21.7%). As with other HMG-CAA reductase inhibitors, the hepatic uptake of Rosuvastatin hepatic elimination Rosuvastatin. Linearity: Systemic exposure of Rosuvastatin increases in proportion to dose. There are changes in pharmacokinetic parameters following multiple daily doses. **Special precautions for storage:** Store below 30°C.

## Feb., 2014

I-Rosatin-RSN-LM0-R0/EE This is a medicament · A medicament is a product which affects your health, and its consump A medicament is a product which affects your health, and its consumption contrarty to instructions is dangerous for you. Follow strictly the doctor's prescription, the method of use and the instruction of the pharmacist two sold the medicament. The doctor and the pharmacist are experts in medicine, its benefits and risks. Do not by yoursel'interrupt the period of treatment prescribed for you. Do not by moust finterrupt the period of treatment prescribed for you. Do not the yoursel's not of the reach of children.

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